The Oil and Gas Journal

PUBLISHED WEEKLY BY THE PETROLEUM PUBLISHING COMPANY AT TULSA, OKLAHOMA

HOME OFFICE, 211 S. CHEYENNE, TULSA
PHONE 3-6291

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SUBSCRIPTIONS: United States, 1 year, $6.00; 6 months, $3.00. Elsewhere, 1 year, $7.00; 6 months, $3.50. SINGLE COPIES: 20 cents each. Back copies, when over a year old, 50 cents. CHANGES OF ADDRESS reaching the Tulsa office of the Journal by Saturday take effect with the following issue.

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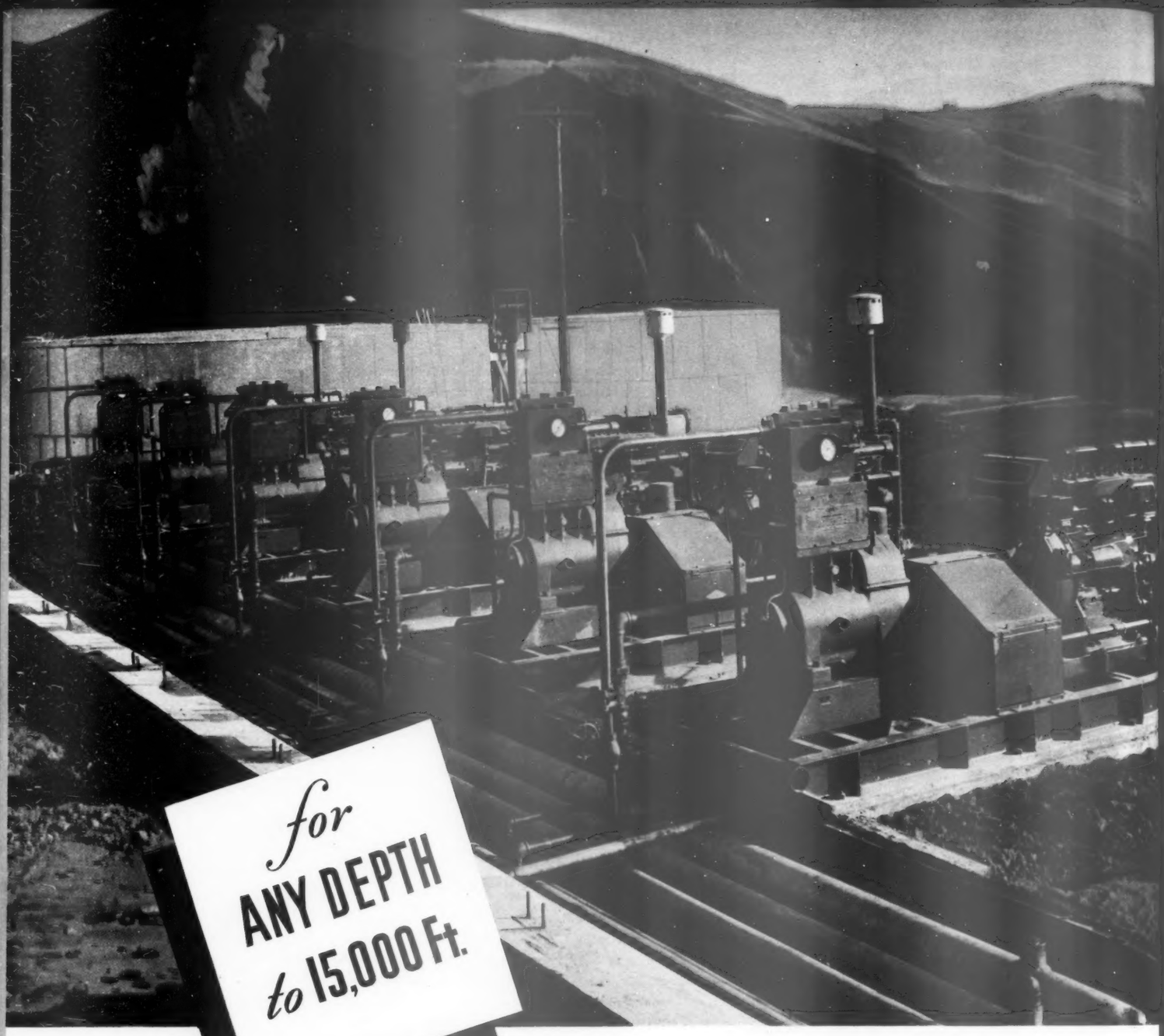

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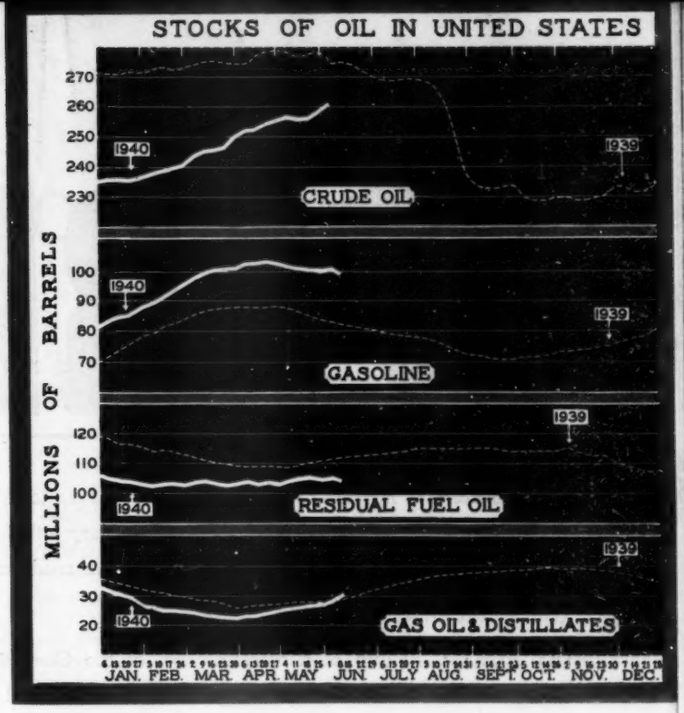
Trends

Italy's Entry in War Affects Oil In Mediterranean



LAST fall commentators pointed out that the European war would reach its maximum significance to the oil industry when the Mediterranean became a part of the active combat area. Italy's declaration of war against the Allies on Monday presumably will precipitate this long-awaited development. The position of the Mediterranean Sea and Italy as regards oil is discussed elsewhere, in this issue. Further details, including a map of the area, will be found in the June 6 issue.

CRUDE PRODUCTION *3,808,932 bbl. daily average—up 159,752 bbl. One year ago 3,374,447 bbl.*

CRUDE STOCKS *261,662,000 bbl. as of June 1—up 2,332,000 bbl. One year ago 277,947,000 bbl.*

GASOLINE STOCKS *99,471,000 bbl. as of June 8 — down 882,000 bbl. One year ago 83,287,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *104,666,000 bbl. as of June 8 — down 102,000 bbl. One year ago 111,557,000 bbl.*

GAS OIL AND DISTILLATES *30,609,000 bbl. as of June 8—up 1,076,000 bbl. One year ago 28,762,000 bbl.*

REFINERY RUNS *3,600,000 bbl. daily week ended June 8 — down 50,000 bbl. One year ago 3,510,000 bbl.*

In brief, the Mediterranean is the principal oil transportation artery of the eastern hemisphere. All the water exports of Rumania, U.S.S.R. and Iraq, amounting to approximately 140,000 bbl. daily, are directly dependent on the Mediterranean for movement. Iran and Dutch East Indies oil shipments to European markets normally pass through the Suez canal and the Mediterranean. There are also large inshipments from the western hemisphere to Mediterranean countries. Should all oil transportation in the Mediterranean be stopped as a result of the action of belligerents it is estimated that shipments totaling 250,000 bbl. daily would be affected.

Many believe that this development assures a large immediate increase in exports from this country and South America to the Allies. Others urge caution in arriving at conclusions as to the oil significance of the latest changes in the war fronts. It is pointed out that the expected increase in export demand as a result of the active war which has been under way for several weeks in western Europe has not materialized. The German offensive has shut down refineries in conquered countries and the center of French refining is now only a short distance from the German line. Despite increased war needs and the loss of refining facilities, exports of most petroleum products from this country have decreased rather than increased. This is partly a reflection of the fact that the spread of the war so far has destroyed more oil markets than it has created. The important oil outlets in Norway, Netherlands, Belgium, and Denmark, in which this country participated, have been lost, while France and Great Britain have reduced their civilian consumption to a minimum in order to supply war needs.

With these conditions in mind many observers conclude that it will be necessary to wait until the final results of the present German offensive, now aided by Italy, are determined. A quick victory by Germany might bring major change in the operation of oil properties in the eastern hemisphere, which, with the exception of those in the U.S.S.R., are now largely owned by British, French, Dutch and American interests.

CRUDE-OIL PRODUCTION
REFINERY CRUDE RUNS
1940
1939
REFINERY RUNS – BBL. DAILY
CRUDE PRODUCTION – BBL. DAILY
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

DAILY AVERAGE PRODUCTION FOR WEEK

	June 8, 1940	Bur. Mines June est. of demand	June state allowables	June 1, 1940
Oklahoma City	113,950	.....	.....	97,850
Seminole field	38,075	.....	.....	37,975
Remainder of state	283,325	.....	.....	282,425
Total Oklahoma	435,350	400,600	408,600	418,250
East Texas	396,690	.....	.....	*298,100
West Texas	237,886	.....	.....	236,747
North Central Texas	145,604	.....	.....	137,088
Texas Panhandle	67,455	.....	.....	67,453
East Central Texas	81,100	.....	.....	79,056
Gulf Coast Texas	361,811	.....	.....	350,250
Southwest Texas	103,392	.....	.....	97,349
Total Texas	1,393,938	1,344,600	1,335,530	*1,266,043
North Louisiana	69,180	.....	.....	70,125
Gulf Coast Louisiana	222,248	.....	.....	237,950
Total Louisiana	291,428	274,700	280,166	308,075
California	632,500	593,700	592,000	604,500
Kansas	150,950	159,000	178,000	158,850
Arkansas	71,515	66,700	70,517	71,305
Mississippi	10,900	7,000	.....	8,032
Eastern fields	108,000	106,400	.....	107,900
Illinois	455,923	395,600	.....	450,430
Michigan	58,908	62,000	.....	59,165
New Mexico	107,640	106,700	107,000	107,650
Rocky Mountain area	91,880	95,300	.....	88,380
Total United States	3,808,932	3,620,300	.....	*3,649,180

*Revised.

SPARKS . . . FROM THE NEWS

PREDICAMENT: If some Gulf Coast refiners refuse to take the absurdly low prices offered for their gasoline they will have to shut down. If they shut down they will lose their crude connections. Heads I win, tails you lose.

TRY AGAIN: Failure of a wildcat west of the Cement field, Caddo County, Oklahoma, to find oil after drilling to 11,026 ft. did not discourage another wildcatter who is starting a 9,000-ft. test northwest of the field.

PICKUP: South Texas is in the throes of an actively increased drilling program, with a number of new fields and extensions being reported during the past several weeks.

NO HURRY: West Texas operators are in a position to take their time as is indicated by the fact that six wildcat tests which have had favorable showings have not been officially gaged.

INDICATIVE: The time allotted for papers and discussions this week at the annual meetings of the Society of Automotive Engineers indicates the wide interest of the automobile industry in quality of fuels and oils.

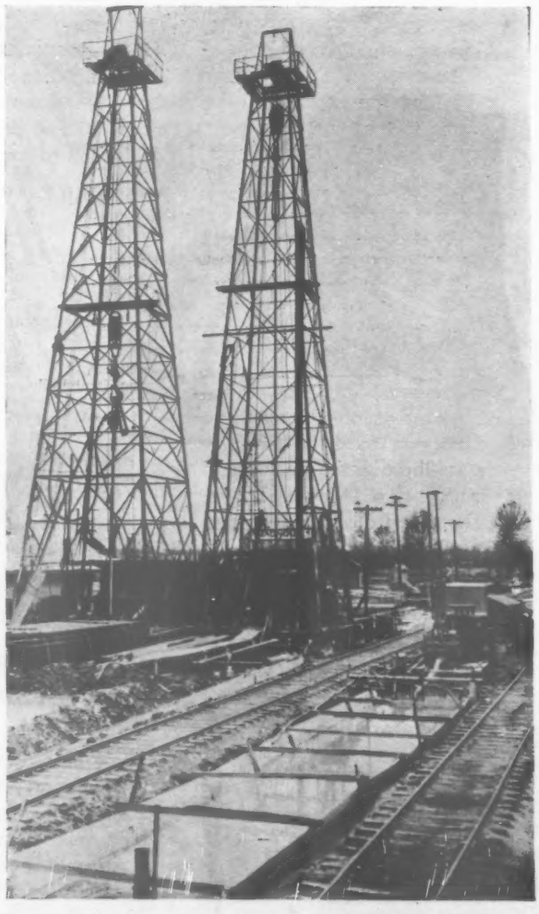
FIRST FOR HURON: A wildcat test, rated a 250-bbl. producer, has brought Huron County, Michigan, its first commercial well after 14 failures. The discovery came at a time when the state was in need of new developments.

BREAK FOR MOTORISTS: The revised Ethyl contracts with refiners will serve a constructive purpose if they end the present confusion of motorists as to what grade of gasoline they are buying. In many cases all carry the Ethyl sign.

WASHED UP: Water has triumphed over oil in the Nebraska discovery well, which is due for abandonment, but operators are preparing to drill a nearby test based on lessons learned in trying to make a success of the state's first well.

THIN STUFF: Aluminum wire one ten-thousandth of an inch in diameter and weighing 0.000,000,009,246 lb. to the linear foot is used in certain geophysical work. A pound of it would be 20,000 miles long. Pretty far stretched.

SLOW! MEN WORKING . . .



A main-line railroad passes between the derrick and slush pits at this drilling location in the Salem field of Illinois. The two offsets, several feet apart, are racing for Devonian completions and the noise is so great that the train whistles cannot be heard. The trains are forced to slow down to a slow walk while passing, lest a worker should step off of the floor in front of an oncoming train. The mud lines to the pits and from the slush pumps pass under the tracks, and both derrick floor and pumps are missed only by inches when the trains go by

MORE INTERPRETATION: What is needed now is someone to interpret the significance of the Supreme Court's decision in the Rowan & Nichols case.

POSTPONED PROJECTION: Illinois came within 168 bbl. of establishing a new peak in production last week. New discoveries in that area over the past 10 days indicate that the projected decline in production may be postponed indefinitely.

PREPARED: American refiners would not be caught napping should the demand for 100-octane gasoline suddenly take a sharp upward spurt. They have a comfortable lead on the plane-expansion program.

TO THE PUBLIC: Pittsburgh gasoline dealers are taking their case directly to the public. They point out that cut prices mean hundreds of attendants out of jobs, also that the cut prices originate from low wages.

OIL WAR: The Mediterranean, oil transportation artery of the eastern hemisphere, was brought directly into the war zone by Italy's action. As regards oil, what happens there in the immediate future may overshadow all other war developments.

Petroleum May Soon Become Major Rubber Source

THE oil industry is prepared to supply not only any conceivable demand for its products for national defense, but it is also in position to guarantee the nation a supply of synthetic rubber, made from a petroleum base, sufficient to replace all the rubber we now import, if that should be cut off by war.

Reports from Washington state that producers of synthetic rubber are being urged to extend their production facilities as a defense measure, with intimations that R.F.C. loans can be made available. It was also emphasized, it is reported, that Government plants might be necessary, if private plants do not extend their production.

Two announcements were made during the past week, one by Pres. W. S. Farish of the Standard Oil Co. (New Jersey) and another by Pres. John L. Collyer, of the B. F. Goodrich Rubber Co., that experimental operations in the plants of each company had demonstrated the practicability of new processes in the manufacture of rubber.

The new process announced by Mr. Farish is not the Buna process* (described in The Oil and Gas Journal, April 9, 1940, page 9) but one entirely different. Mr. Farish explained that the company, in cooperation with Firestone Tire & Rubber Co., was manufacturing Buna rubber, a synthetic type developed in Germany and originally made here under license from a German company. Buna, as made in Germany, utilizes coal and gas products available to German manufacturers. The Buna and new butyl rubber now being made by Standard Oil utilize petroleum products.

The new butyl, Mr. Farish said, is not as resistant to oil as is Buna, but in some other respects it is superior to the German discovery.

The company's new product—butyl rubber—is made from petroleum by processes more direct and simple than required for production of Buna rubber.

"Our technological staff is convinced that in this butyl rubber we have a product that we can manufacture perhaps more cheaply than Buna," he said. "We have every confidence that with a little more experimental work in the laboratories of the tire people the vulcanizing will come through in good shape."

"As in the case of the Buna rubber, the development of the butyl rubber will be in stages," said Mr. Farish, "the first stage being the manufacture of relatively small quantities for the specialty market and for commercial testing in tire production. Should it become necessary for the United States to produce synthetic rubber in substitution for a major proportion of natural imported rubber, we are in a position to manufacture the butyl rubber from petroleum in any required quantities as rapidly as the necessary plant facilities can be installed."

*A plant for the manufacture of Buna rubber is now being installed at the Baton Rouge, La., refinery of the Standard Oil Co. of Louisiana.

Butyl has characteristics of its own whereas Buna is in demand at this time for specific uses such as for rubber hose, where resistance to the effects of gasoline and oil are required. Butyl rubber is not an oil-resistant product, and will therefore not be in direct competition with Buna for the Buna specialty market. The butyl rubber has, however, special properties of its own which make it superior to natural rubber for many uses, Mr. Farish said. "Butyl is already in production in our Bayway (Elizabeth, N. J.) laboratory where two tons have been made."

Dr. Gustav Egloff, director of research, Universal Oil Products Co., in accepting the medal award of the American Institute of Chemists at Atlantic City last month, concluded with the following statement regarding the potentialities of rubber from petroleum:

"In the world war now going on, difficulty will be experienced in obtaining natural rubber for our own needs. It is reported that the U. S. has but a 3-months' supply of natural rubber. Some suggestion has been made to plant rubber trees in a South American country such as Brazil. It would require at least 10 years to obtain rubber in this way. Benzene and ethylene through alkylation and dehydrogenation yield styrene, a starting hydrocarbon for synthetic-rubber manufacture. Butadiene is another hydrocarbon which can be readily produced and converted into synthetic rubber or may be copolymerized with styrene. This latter type of synthetic rubber has about 30 per cent greater wear quality and strength in tires than natural rubber. The U. S. has potentially available enormous quantities of these hydrocarbons and other substances which can be converted into synthetic rubbers. In 1939 about 1,100,000,000 lb. of natural rubber were used in this country. Over 200,000,000,000 lb. of synthetic rubber could be produced from ethylene from the cracking process, benzene from cyclization, and butadiene from the dehydrogenation of butane. A unit to produce 10,000 lb. a day of synthetic rubber from butadiene derived from petroleum is being installed."

President Collyer of the Goodrich Co., told a gathering of 500 industrialists, scientists and military experts at a reception in the Hotel Waldorf-Astoria, New York, that his company is producing tires by the same manufacturing process used for natural rubber, from a synthetic with a petroleum base, which the company calls "Ameripol," signifying a polymer or recombination of molecules of American materials.

Mr. Collyer said this product, described as "Liberty Rubber," could be processed and vulcanized as is the natural product. He added that the company had had in operation for more than a year and a half a pilot plant producing the synthetic which was being made in a semicommercial plant at Akron where a manufacturing plant will be opened next fall with a daily capacity of several tons of Ameripol.

The new Goodrich tires use Ameripol to replace natural rubber in proportions varying from 50 to 100 per cent. If the industry were to replace the natural rubber in tire treads and side walls alone, it would reduce by approximately one-half America's consumption of the natural product, Mr. Collyer said.

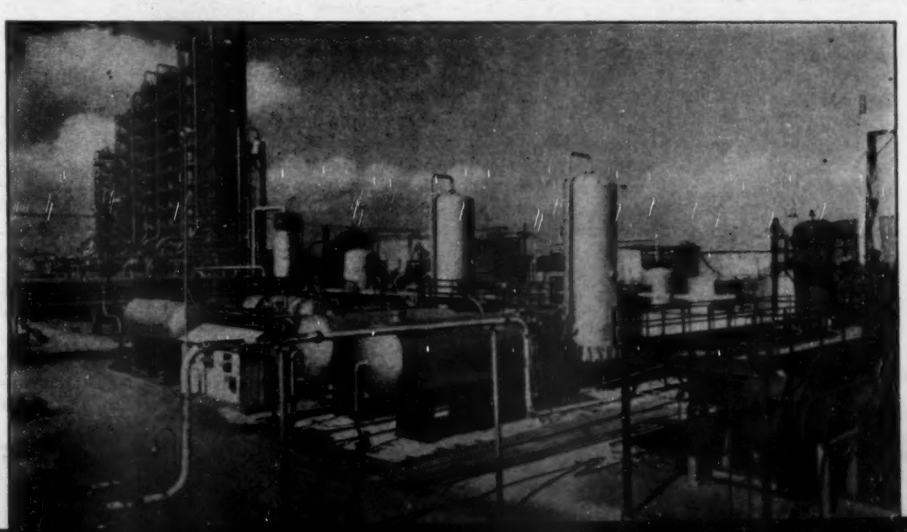
Ameripol costs more than rubber now and new tires made of it would be higher in price, but with increasing production economies might be expected which would reduce the price.

"At which precise date Goodrich can go before the American public with the announcement that America need no longer depend upon natural rubber," said Mr. Collyer, "we cannot foretell. But this we do know, substantial progress has already been made."

Dr. Waldo L. Semon, who, with his assistants, was credited with the development of Ameripol, said, "Petroleum is broken down to a mixture of simple molecules, and from this mixture can be separated a gas which under pressure liquefies to give butadiene. This is mixed with other ingredients prepared from natural gas and air and then made into a milky emulsion, using soap produced from American agricultural sources."

The resultant product is similar to the latex obtained from rubber-producing trees.

More than 98 per cent of the crude rubber used in this country comes from the far eastern possessions of Great Britain and the Netherlands, involving possibilities of interruption by the war.



Recently completed alkylation plant at Baytown, Tex., refinery of Humble Oil & Refining Co.

Off-shore development in Nueces Bay at East White Point, San Patricio and Nueces counties, one of the most active fields in the lower Gulf Coast district. Sinclair Prairie Oil Co. now has six rigs running in the bay at this field

Active Development Program Under Way in South Texas

By NEIL WILLIAMS

HOUSTON, Tex., June 10.—A decided pickup in drilling is being displayed in South Texas, particularly in the Corpus Christi and lower Gulf Coast areas. Active development programs are getting under way in an increasing number of fields. New work is being started in other areas. Exploration generally is spreading over the district.

During the past several weeks a succession of new fields has been opened, which with extensions proved and additional sands uncovered at existing fields, opens the way for further expansion. With this spurt, the completion rate is being materially boosted.

The most extended drilling play follows that trend of fields running northward from Sullivan City, southeastern Starr County, on the border, through Starr County, Brooks and Jim Hogg counties, into Nueces County, and taking in the Rincon, Sun, Kelsey and Colorado fields. However, this is not overshadowing the widespread wildcatting activity covering Victoria and Jackson counties at the north end of the district, where several promising new fields have just been opened.

Of the lower coastal fields, Rincon, Starr County, is among the most active. There, W. R. Davis & Co., Inc., which controls the major portion of the prospective productive area, is keeping six rigs running. Since this company took over the development it has drilled approximately 20 wells, uncovering seven productive sands and proving what is believed to be one of the largest single reserves in the entire district.

In the Sun field, north of the Rincon field, northeastern Starr County, five rigs are busy, four being operated by Sun Oil Co., the major operator in the field, and one by Humble Oil & Refining Co., northwest of the field. In addition, Humble Oil & Refining Co. has two active operations in Kelsey, Jim Hogg and Brooks counties, a few miles north of the Sun field. In both these fields new wells are being completed in steady succession.

The Colorado field, western Jim Hogg County, is the scene of active drilling, which has kept up since the latter part of the past year.

A townsite drilling play is being launched at Robstown, Nueces County, where Sid Richardson and associates have extended production of the Robstown field to the north limits of the townsite. The Richardson well is the second, an extension of nearly a mile from the discovery, which was about a mile north of town. The discovery well was completed last year, but since then the field, until the drilling of the new producer, has been inactive. Production is from a 5,200-ft. sand.

Following completion of the discovery well, the city passed an ordinance prohibiting drilling within the townsite, but this has been repealed since completion of the second well. A new ordinance has been substituted providing for drilling of one well to each five city blocks, approximately 20 acres. There are 48 drilling blocks within the townsite, and permits already have been issued for two, drilling to be started immediately. Both permits were issued to Sid Richardson, who drilled the wells so far completed. Two miles east of the townsite, Texas Conservative Oil Co. has a test under way.

Most Active Spots

East White Point, Nueces and San Patricio counties, continues among the most active spots with 11 operations. Sinclair Prairie Oil Co. has just increased its operations in Nueces Bay from two to six in extension of production further offshore. This increase in rigs is partially offset by the shutting down of several rigs by other companies.

Spreading development in the Wade City-Orange Grove area of Jim Wells County is bringing in additional operators. There now are more than a dozen rigs running, the largest single concentration of drilling in the district. Most recent entries of operating companies are Atlantic Refining Co., Humble Oil & Refining Co. and Plymouth Oil Co.

Both Wade City and Orange Grove have come into the picture only this year, Orange Grove within the past several weeks. While the Wade City field was opened last year, the discovery well was a gas-distillate producer and it was not until more recent months this year that first oil was opened and active development started. Orange Grove, which adjoins Wade City, was opened the past month. Development at Wade City is from 4,800-4,900-ft. sands, while at Orange Grove production is from a 5,000-ft. level.

At Aransas City (McCampbell field), Aransas and San Patricio counties, where development is under way in the townsite, 11 to 12 rigs are running continuously. They are operating over a comparatively wide area. The present spurt at Aransas is one of several which the field has experienced within its 5 years of existence.

Humble Oil & Refining Co. is starting a second test in the new East Flour Bluff field, located in Laguna Madre about a mile east of the main Flour Bluff field, Nueces County. The discovery well, No. 1-D State, drilled by Humble, was completed in sand at 6,790-6,800 ft. for 180 bbl. of 41-gravity oil through a ⅛-in. choke. It is on the downthrow side of a fault which cuts the eastern flank of the Flour Bluff field. As the field is quite a distance offshore, development will be carried on conservatively.

In the recently opened Bloomington field, Victoria County, two additional tests are getting under way with prospects others will be started shortly. Texas Gulf Producing Co. has recompleted its discovery well, No. 1 Kester, as a gas-distillate well from sand at 5,103-5 ft. The two tests being started are by the same company, but close acreage is held by Barnsdall Oil Co., Gulf Oil Corp., Union Producing Co., Arkansas Fuel Oil Co. and others.

Another field in Victoria County that promises new drilling has been opened by Colton & Colton about 5 miles southwest of Cologne and about 12 miles southwest of Victoria in the extreme western part of the county. The discovery, No. 1 Mrs. Etta Terrell, completed at a total depth of 5,289 ft., establishes the first Vicksburg production in the county, and is expected to start a new play. In the immediate area, close-in acreage is held by numerous operators, including Arkansas Fuel Oil Co., Stanolind Oil & Gas Co., Devonian Oil Co., Luling Oil & Gas Co., British American Oil Co., Sollars & Pool, O'Neil and associates, and others.

This is the second new production uncovered by the same operators in Victoria County within re-

cent weeks, the first being a shallow strike on the Mahan ranch in the Telferner area, east of Victoria. There, the discovery well was completed in sand at 2,692-98 ft.

For some time Victoria has been one of the most actively wildcatted counties on the Gulf Coast. Including both rank wildcats and major extension tests, there have been a dozen active operations at times scattered over the county. Close-in tests in some established productive areas often boosted that number. With new development as a result of recent discoveries, even more widespread activity can be expected.

Extension within the last several weeks of the Keeran field, eastern Victoria County, about a mile north and west, opens the way for additional important development in that field. The extension well was Gulf Oil Corp.'s No. 18 Keeran, completed in sand at 4,812-13 ft.

The activity in Victoria County also is being reflected in an increased amount of work in Jackson County, bordering Victoria County on the east. In the West Ranch (Vanderbilt) field, western Jackson County, is the greatest concentration of drilling on the Texas Gulf Coast. There were 17 rigs running in that field, now one of the largest in the district. Spread of development is bringing in additional operators.

Interest in Jackson County was increased late in May with the opening of another field by Wellington Oil Co. east of Lolita, less than 10 miles northeast of the West Ranch field. The discovery well, No. 1 L. ranch, flowed on potential test 20.57 bbl. of 34-gravity oil an hour through a quarter-inch choke from sand perforated at 5,933-37 ft. Already the field has been extended a mile and a quarter westward by completion of Barnsdall Oil Co.'s No. 1 Lazarus, which flowed 49 bbl. an hour through a ⅛-in. choke with perforations at 5,924-29 ft. At least four tests are to be started immediately. Magnolia Petroleum Co. has locations for a north offset to the Wellington producer and a south offset and a northeast offset to the Barnsdall well. Wellington Oil Co. also is to drill a second test, while Humble Oil & Refining Co. and Shell Oil Co., Inc., have close-in acreage. Completion of the present offsetting tests as producers will call for an active drilling play, involving Shell and Humble.

Active operations in the Mauritz area, eastern Jackson County, are being increased to four with the starting by Humble Oil & Refining Co. of a deep test (No. 1 Mauritz), about a mile southwest of the field. Other tests drilling include one a short distance south of production and two on the north side of the field.

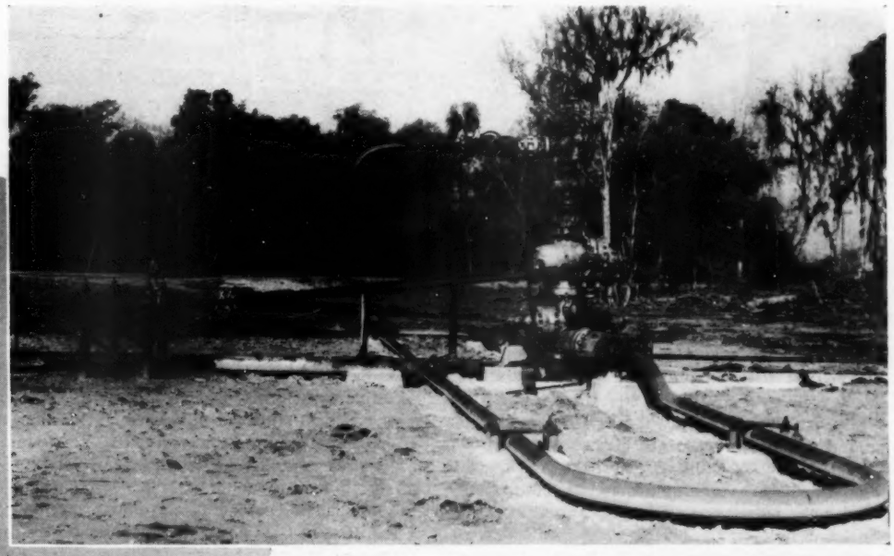
Including those already listed, 15 fields have been opened in South Texas this year. Of these, nine have been brought in since April 1, four during the past month. The most recent additions are Sheridan, Colorado County; Alta Loma, Galveston County; and Lolita. All the latter are located in the upper Texas Gulf Coast district. This run of field openings is in contrast to inactivity in this district early in the year. The Sheridan field was opened by Shell Oil Co., Inc. The discovery well is producing from a total depth of 8,339 ft., flowing initially around 7 bbl. daily of 35.4-gravity oil through a ⅛-inch choke. A west offset is drilling. A wildcat being drilled by Shell in the Cold Springs area of San Jacinto County has given favorable indications.

Two tests are being started at Alta Loma, where Stanolind Oil & Gas Co.'s No. 1 Hulen, the discovery, which blew out and ran wild for several days, is under temporary and partial control, flowing an estimated 300 to 400 bbl. an hour of 36-gravity oil at 9,166 ft. Stanolind's second test is about a half mile west of the discovery, while Salt Dome Oil Corp. has location about a half mile north of the discovery.

Wildcatting generally throughout the upper Texas Gulf Coast area has shown an upward trend within recent weeks, and with the discoveries being made, renewed incentive is being given for further activity. Among the fields, Old Ocean, Brazoria County, continues the most active with nine rigs running. However, field work generally over this district still is being limited largely to routine development. Of significance at Old Ocean is that the development is in a 10,000-ft. sand.

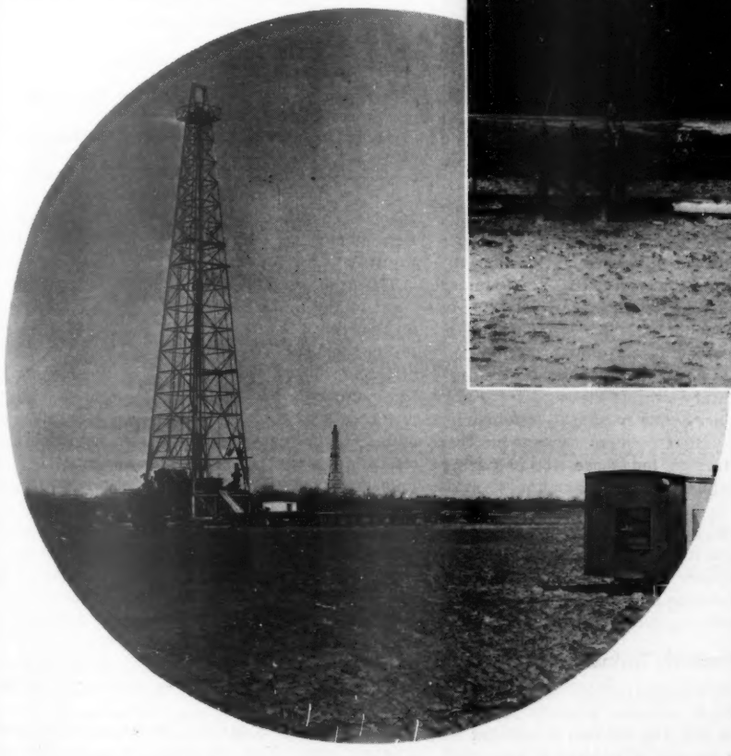
The new Glen field, Webb County, Laredo area, gives promise of a drilling play, as one of the most important fields opened in that district. Production of the field, opened the past month, is from the Mirando sand around 2,150-60 ft., and wells have initial flows around 50 to 60 bbl. an hour. Indications point to extension of production to the Zapata and Jim Hogg county lines, several miles. Interstate Minerals, Inc., Transwestern Oil Co., O. W. Killam, and Houser & Campbell are the principal leaseholders.

Other fields opened this year, and where drilling is under way or scheduled to start shortly, are Bee Creek, Caldwell County; Day, Guadalupe County; Victoria, Victoria County; Fagan, Refugio, County; Mackay, Wharton County; East Peters, Duval County; and Spurger, Tyler County.



Below: Typical drilling scene in one of the many active fields in the lower Gulf Coast district. Setting up (foreground) for new test at Ben Bolt, Jim Wells County, with active drilling operation in the background

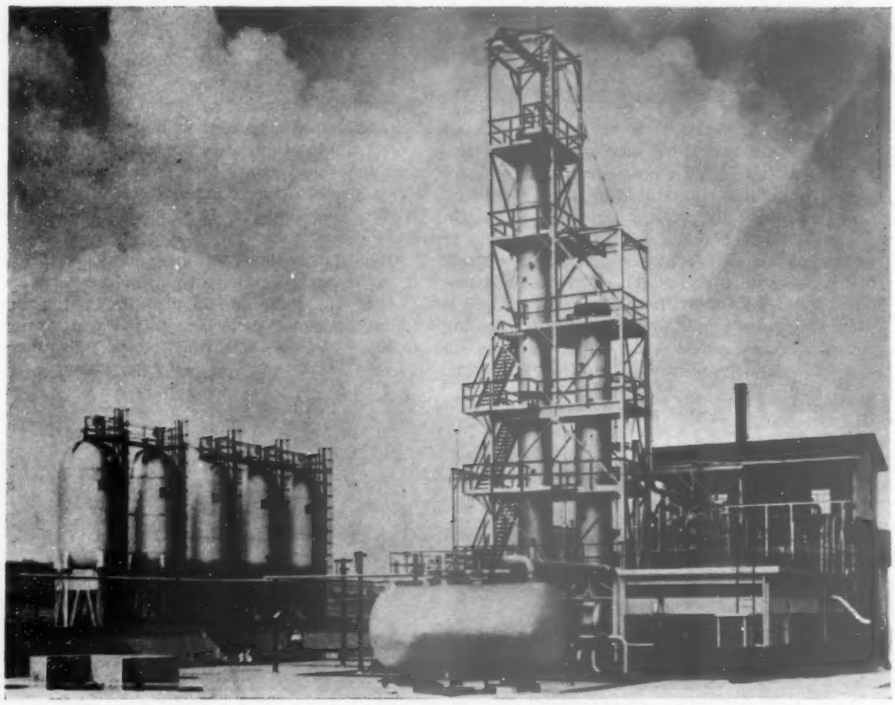
Right: Completed well hookup in the deep sand, high pressure Old Ocean field, Brazoria County, upper Texas Gulf Coast, where nine rigs are running in this district's most active single development project



Right: Type of modern, heavy rig being used in South Texas drilling operations. This rig is located at East Premont, Jim Wells County, where Magnolia Petroleum Co. is maintaining steady, consistent development in a large producing area

Refiners Alert to Potential Need for Aviation Fuel

By H. STANLEY NORMAN



Selective polymerization unit, charging 2,000 bbl. per day of butane-butene

U. S. refiners are fully prepared to meet any increased demand for aviation fuel that may develop as a concomitant of the president's plane-expansion program. Production of 100-octane fuel can be stepped up tremendously with facilities now existing or under construction, so that it will not be necessary to engage in expensive overbuilding to meet an emergency need of possible short duration. This article reviews the construction now under way, and speculates on the probable needs of the national-defense program for oil products.

NEW YORK, June 10.—Existing and building refining facilities in the United States are fully qualified to supply the aviation-gasoline demand potentially contained in the president's program for 50,000 military aircraft. An analysis, based on figures as accurate as possible to obtain under the existing secrecy, indicates that the petroleum industry has a "running start" on the plane-expansion program as the result of research and development of commercial processes to utilize the lighter hydrocarbons.

There are a half dozen or more processes by which 100-octane aviation motor fuel can be produced in commercial operation and probably as many more are in various stages of development in laboratories and in experimental pilot plants.

The commercial processes include alkylation, polymerization, hydroforming, polyforming, catalytic cracking, and hydrogenation. None of the processes represents a single-stage conversion of petroleum into aviation gasoline but any or all may function to provide directly or indirectly the material from which 100-octane aviation gasoline can be obtained by the American refining industry.

Since the petroleum industry's aviation-gasoline producing capacity appears to be several jumps ahead of the airplane-building program, refiners will not be ambushed into overbuilding to meet an emergency which could prove of short duration. With a fairly comfortable margin existing between immediate demand and producing capacity the refining branch of the industry is in position to witness developments from a vantage point of comparative security. A decided change in the European political situation might materially alter the 50,000-plane program and the petroleum industry recognizes the folly of gearing itself to fuel a fleet of that magnitude with 100-octane gasoline unless the demand is reasonably certain to develop.

Insufficient time has elapsed since the president expressed his military-aircraft views to trace any contemplated refinery construction to that source. This is not to say that refiners throughout this country and in foreign lands are not preparing themselves to produce increasing amounts of aviation gasoline. It is merely to point out that the industry appears to have taken a comfortable lead in producing capacity over anticipated demand and that developments will be awaited before aviation-gasoline producing facilities are extended beyond a conservative margin.

For Advanced Training Only

Furthermore, it may be pointed out that 100-octane fighting-grade aviation gasoline probably will be used only for the advanced training of pilots. Because of the cost of producing 100-octane motor fuel, refiners anticipate that much of the preliminary pilot-training flying will be done with gasoline of lesser knock rating.

Evidence is at hand that 1940 will close as one of the most extensive refinery-construction periods in recent years. The processes for production of superior motor-fuel blending agents in stages of development for the past 5 or 6 years have reached commercial perfection and their application, started on a broad scale in 1939, is continuing this year.

The position of the petroleum industry with respect to the national-defense program was spread on the record last week by W. S. Farish, president of Standard Oil Co. (New Jersey). Asked about the effect of the United States' defense program on the company's business, Mr. Farish said that no one knows what the defense program will be, but added that heavy expenditures for airplanes, tanks, guns, and other munitions would lead to improved business which would stimulate the operations of all companies.

"As for making a special demand on the oil industry, I don't look for that, at least not for a while, but whatever the demands are, the oil industry is the only industry in the United States which is unsubsidized, without any government favors, but suffering under government taxation all the time, that is capable of furnishing any reasonable demand that might be made upon it," Mr. Farish said.

"The industry is equipped to produce and manufacture more. The only possible new effort or new investment that might have to be made would be to meet a doubling in the demand for 100-octane aviation gasoline. That would require some new construction, but it can be done."

Oil men are of the opinion that, given 8 months to a year, the refining industry could equip itself to manufacture any required amount of 100-octane aviation gasoline visualized under even the most

optimistic schedule for production of planes.

Aviation-gasoline production, stocks and demand as reflected by the Bureau of Mines monthly petroleum statistics, cannot be considered indicative of the U. S. 100-octane manufacturing capacity, as in this classification the weighted average is 84 octane. Stocks of aviation gasoline as classified by the Bureau of Mines now stand at approximately 3,500,000 bbl. The domestic demand in March was 427,000 bbl. and exports totaled 249,000 bbl. for that month, while production was 888,000 bbl. Indications are that the producing capacity of 100-octane aviation gasoline is in reasonable balance with demand. This indication is supported by the market which is in the neighborhood of 17 to 18 cents per gallon on the Gulf, a range that has been unchanged. On the other hand, motor fuel below 100-octane specifications slumped from 1 to 2 cents per gallon during the late winter and early spring weeks and has not yet revived.

R.A.F. Specifies 100-Octane

The British Royal Air Force specifies exclusively 100-octane for its fighting-grade gasoline in current deliveries, whereas a year ago it was purchasing quantities of 87 and 90-octane motor fuel. In this single respect, and disregarding all other considerations, the Royal Air Force is considered superior to Germany on a plane-to-plane basis. Germany's indigenous aviation-gasoline supply is thought in this country's oil circles not to exceed a weighted average of 87 octane. The superiority in power of the motor fuel normally used by the British planes over that of the German air force might easily account for the reports of Allied plane-to-plane supremacy.

If the defense program of 50,000 military airplanes is fulfilled, the Government will require approximately 2,000,000 gal. of aviation fuel daily to carry out peacetime training operations, assuming that the routine is virtually unchanged from the present schedule. With 3,500 military aircraft in service during the most recent fiscal year the consumption of aviation motor fuel amounted to about 137,000 gal. or 3,262 bbl. daily.

For general calculation, the consumption per military aircraft in the United States at peace is about 39 gal. daily or, say, 1 bbl.

Consider that multiple-engined fighting planes would use an average of 100 gal. per air hour and that at least 60 per cent of the 50,000-ship goal will be of this type, or a total of 30,000. Then assume that fully 10 per cent will be grounded for mechanical reasons. The 29,700 multiengined planes in service for 3 hours each day would consume a total of 212,143 bbl. of motor fuel daily.

The 20,000 pursuit ships (single engined) may be assumed to consume 60 gal. per air hour. Their daily service might be as much as 4 hours per day average, requiring 4,800,000 gal., or 114,285 bbl.

Combined potential aviation-gasoline consumption on the hypothetical number of ships and flight periods set forth would require a total for the military service alone of about 326,428 bbl. daily.

Another Source of Aviation Gasoline

Alkylation plants completed, building, or reasonably assured have a producing capacity of nearly 10,000 bbl. daily. Only two smaller plants, one in Sumatra and one on the island of Aruba in the Netherland West Indies, are located outside the United States. Their combined capacity is 1,100 bbl. daily.

Catalytic reforming, direct hydrogenation, and hydrogenation in conjunction with polymerization account for another source of 100-octane aviation gasoline. A considerable percentage of the capacity of such processes in this country is currently used in the less severe treatment of charging stocks for the procurement of blending materials with which to improve the overall plant gasoline and thus meet the competitive conditions in the domestic motor-fuel market.

Review of Expansion Programs

A brief review of some of the major refinery construction programs now under way or definitely scheduled for starting this year will give a slant on the trend. The review does not purport to be inclusive of all work, partly for the reason that some of the companies forbid employes or contractors to disclose the nature of construction.

One of the largest projects on the eastern coast is the Houdry catalytic cracking unit to be built at Bayonne for Tide Water Associated Oil Co. The plant will have a capacity of 10,000 to 15,000 bbl. daily and is expected to be completed about April 1941.

On the Gulf Coast Humble Oil & Refining Co. is engaged in constructing a second alkylation unit of 1,000-bbl. daily capacity at Baytown.

Pan American Petroleum & Transport Co. has a hydroforming unit under construction at Texas City which will expand the quality range of refinery gasoline this plant can produce.

At Marcus Hook, Pa., Sun Oil Co. is completing a catalytic-reforming unit, additions to its gas-recovery plant, and an expansion of cracking facilities.

MOST COMPLETE MAP OF KANSAS EVER PUBLISHED

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Regular subscribers of The Oil and Gas Journal will find in the June 27 issue a 33 by 48-in. insert map in color of Kansas, which will show the locations of more than 500 oil and natural-gas fields, 20 active refineries, 14 natural-gasoline plants and 35 crude-oil, natural-gas and gasoline pipe-line systems. This issue will feature operations in Kansas, and readers will obtain a complete survey by fields, the information arranged in convenient form, including:

Name and location of field
Date of discovery
Producing wells
Drilling wells
Depth of producing horizon
Daily average production
Accumulated production
Gravity of crude oil
Pipe-line outlets.

These are just two features of an issue which will give a well-rounded survey of Kansas today and tomorrow, covering geology, drilling, production, engineering, refining, natural-gasoline manufacture and transportation.

Magnolia Expansion

Socony-Vacuum Oil Co., Inc., recently completed a thermal cracking unit at Paulsboro and its operating affiliate in the South, Magnolia Petroleum Co., is preparing to spend approximately $2,000,000 on increasing the capacity of its Fort Worth, Tex., plant from the present limit of 5,000 bbl. daily to 20,000 bbl.

Mid-Continent Petroleum Corp. is building a hydroforming unit and installing a wax deoiling process at its Tulsa refinery, while Continental Oil Co. recently awarded contracts covering plant additions at Ponca City, Okla., and an entirely new refinery at Lake Charles, La.

Standard Oil Co. of Indiana is building a large distillation plant and coking unit at Whiting, Ind., and Shell Oil Co., Inc., recently completed a visbreaker of 18,000 bbl. daily capacity at Wood River, Ill.

On the Pacific Coast Union Oil Co. of California is well advanced on the construction of an alkylation unit at Wilmington and plans to start construction July 1 on a catalytic cracking unit at Los Angeles.

Pennsylvania District Program

In the Pennsylvania district all refineries with cracking plants are now equipped with polymerization units for the processing of lighter hydrocarbons into motor-fuel blending material. The most recent "poly" plant installed and completing the blanket coverage is that of Freedom Oil Co., at Freedom, where a unit of 250,000 cu. ft. per day capacity began operating earlier this year. The plant is a bit out of the ordinary in that it exchanges reboiler oil with the gas to heat the charge instead of using the conventional furnace. Quaker State Oil Refining Corp. is launched on a major refinery-improvement program. The major items are the installation of solvent refining units at the McKean plant at Farmer's Valley and at the Ohio Valley refinery at St. Mary's, W. Va. A similar unit is planned for the Emlenton, Pa., refinery.

All of the solvent refining units will employ the furfural process and are the first of this type contracted in the Pennsylvania region. The Farmer's Valley refinery has a methyl-ethyl-ketone solvent dewaxing plant previously installed. The utility production capacity is being increased at Emlenton.

The Shell refinery at Deer Park, Texas Gulf Coast, is being equipped with an alkylation unit and other improvements representing a total outlay of about $2,500,000.

Gulf Oil Corp. is expanding its facilities for recycling refinery gases at Port Arthur, a development which will soon be made available for general application.

The scope and variety of refinery construction now under way in the United States gives ample justification for anticipating that the industry will be adequately prepared to meet any increase in demand for quality products growing out of the national-defense program.

War and Oil

Italy Entry Brings Mediterranean Oil Supplies Into War Zone

THE entry of Italy in the war Monday as an ally of Germany brought the oil supplies of the Mediterranean area directly into the war zone. While the action had been expected for some time its full significance in the production and movement of petroleum will not be known until the relative strength of the belligerents in that area is determined.

It is assumed that petroleum shipments to all the countries at war bordering on the Mediterranean will be curtailed or stopped entirely by the Italian and Allied navies. Fronting directly on the Mediterranean at the terminals of Haifa, Palestine, and Tripoli, Syria, are the 80,000-bbl. crude-oil deliveries of Iraq controlled by British, Dutch, French, and American interests. A recently completed 40,000-bbl. refinery controlled by British interests is located at Haifa.

The 40,000-bbl. water exports of Rumania on the Black Sea are dependent on the connecting Mediterranean for movement to European customers. The same situation applies to the exports of the U.S.S.R. amounting to several thousand barrels daily. The crude production of Egypt amounting to approximately 14,500 bbl. daily is dependent on the Suez Canal and the Mediterranean for water transportation.

In normal times that part of the 215,000-bbl. daily production of Iran which is marketed in Europe passes through the Mediterranean. That sea is also a large transportation artery for petroleum shipments from the United States and South American countries to Italy, France, and other countries. Italy's imports of crude oil and refinery products from the United States averaged 17,000 bbl. daily last year.

It is estimated that the average petroleum shipments through the Mediterranean total approximately 250,000 bbl. daily from all sources.

Should all petroleum shipments to the Allies through the Mediterranean be stopped France and Great Britain will face a serious situation in regard to oil supplies. Shipments from Iran and the Dutch East Indies would have to be brought around the African coasts via Cape of Good Hope. This would greatly increase the number of tankers needed to move the required oil.

It has been assumed that this situation would result in increased purchases of crude oil and refinery products from the United States and South America and the refineries of the Netherland West Indies.

Italy, unless she obtains control of the supplies of Iraq or is able to purchase the Rumanian exports now going largely to Great Britain and France, will be forced to draw on storage which is assumed to be large enough for several months' requirements.

Italy's prewar consumption was approximately 63,000 bbl. daily, all of which was imported with the exception of approximately 3,000-bbl. daily crude production in Italy and Albania.

An article in last week's (June 6) issue of The Oil and Gas Journal discussed Italy's position in relation to oil supplies including a map showing the location of fields and pipe lines in the entire Mediterranean area.

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French Refineries in Direct Path of German Drive

NEW YORK, June 10.—The renewed drive of the German Army toward Paris involves an attack directed at Le Havre, the port through which approximately 50 per cent of France's refining capacity is supplied. Two French refineries at Dunkerque and Courchelettes with combined crude capacity of 15,000 bbl. daily are in territory now held by Germany. It is not known whether the two refineries in northern France were damaged extensively by the severe fighting, but it is considered improbable that Germany was able to take them in operating condition.

The Courchelettes refinery was owned by Soc. de Raffinage des Huiles de Petrole, a subsidiary of Anglo-Iranian Oil Co., Ltd. This ownership makes it probable that the plant was either destroyed during the invasion or by the retiring Allied troops. The Raffinage des Huiles plant had a crude capacity of 5,000 bbl. daily and cracking equipment to handle 2,000 bbl.

Raffinerie de Petrole du Nord owned the 10,000-bbl. refinery at Dunkerque which likely did not escape damage in the bitter fighting at that port for 2 weeks. These two plants alone represented about 9 per cent of the total French refining capacity of 175,550 bbl. daily.

The real nerve center of the French petroleum industry is the port of Le Havre at the mouth of the Seine River, around which are located five refineries with total crude capacity of 87,500 bbl. daily. Included in the five refineries is that of Cie. Francaise de Raffinage with a crude capacity of 36,000 bbl. daily and 8,000 bbl. daily cracking, making it the largest refinery in the nation. Raffineries de la Vacuum Oil Co. has two refineries in the general area at Gravenchon and Port Jerome with combined crude capacity of 12,500 bbl. daily and 4,600 bbl. daily cracking. The Standard Francaise des Petroles plant at Port Jerome has a crude capacity of 24,000 bbl. daily and 12,000 bbl. daily cracking capacity. At Rouen on the Seine, S. A. des Petroles Jupiter (Shell) has a plant of 15,000-bbl. daily crude and 7,000-bbl. cracking capacity.

The combined refinery capacity of plants on the seacoast at Le Havre or inland on the Seine River is 87,500 bbl. of crude daily, or nearly 50 per cent of the French total. The cracking capacity of this same group of refineries totals 32,400 bbl. daily, or roughly 50 per cent of the French aggregate.

The most successful attack on German petroleum supplies so far reported in the European war was carried out last week in northern and western Germany by the Royal Air Force, according to dispatches from London. The British Air Force sent waves of bombers over the industrial Ruhr and Rhineland areas attacking from Dortmund on the north to Mannheim on the south, blanketing an area in which petroleum supplies are fed to the German war machine attempting to break through the Somme line.

Incendiary bombs were dropped at a large oil-storage terminal at Frankfort-on-the-Main, starting numerous fires which illuminated raiding planes 5,000 ft. in the air.

Other British bombers delivered an attack on an oil-storage plant at Monheim, between Dusseldorf and Cologne. At Mannheim, a direct hit was reported scored on a big oil-storage plant starting a destructive fire. Other oil terminals at Dusseldorf and Dortmund were hit, according to R.A.F. claims.

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United States Takes Steps to Insure Preparedness of Oil Industry

WITH the European war emphasizing the significant role of petroleum in military affairs, the United States has already taken steps to assure itself of the preparedness of its oil industry, Interior Secretary Ickes revealed at his weekly press conference. The secretary disclosed that the Petroleum Conservation Division of the Interior Department has begun a survey of the oil industry in its relationship to national defense. Questions the division will seek to answer include whether there is enough petroleum for any emergency, and whether it can be distributed where it might be needed, especially if a larger supply of oil can be shipped from the Mid-Continent fields to the eastern coast. He said the division is taking inventory of oil stocks, and determining the location and capacity of all oil and gas pipe lines. Every phase of the oil industry is concerned in the survey, Mr. Ickes stated, including production, distribution, consumption and the export trade.

That the Department of the Interior will not use the factor of a national emergency to ask for the passage of the Cole oil bill was indicated when the secretary declared he did not believe he would need any legislation in the matter. He expressed himself fully confident of receiving the cooperation of the oil companies, and said he would confer with their representatives if the need arose.

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Subcommittee Recommends Oil And Gas Investigation

WASHINGTON, D. C., June 10.—A subcommittee today recommended that the Senate judiciary committee make an investigation to determine if there is a monopoly in the control of production and distribution of natural gas and petroleum. The subcommittee hearings were all devoted to the controversy between the Missouri-Kansas Pipe Line Co. and Columbia Gas Corp., and it is expected any investigation, if ordered, will be so confined.

Supreme Court Decision In Oil Case May Have Far-Reaching Effect

By D. H. STORMONT

DECISION of the U. S. Supreme Court at Washington, D. C., last week reversing the holdings of two lower courts in the suit of Rowan & Nichols Oil Co., in which it attacked the Railroad Commissin's potential basis of proration in the East Texas field, is generally regarded as being of far-reaching importance in establishing the power of state regulatory bodies in their administration of oil proration. Immediate effect of the decision, of course, is on the method of allocation in that field, but most authorities on oil proration agree that the court's holdings on fundamental issues involved will prove to be of more importance.

The order attacked by Rowan & Nichols was that of August 29, 1938, under which each well in the East Texas field was allowed to produce 2.32 per cent of its hourly potential, with all wells allotted a marginal allowance of 20 bbl. daily, except submarginal wells. Briefly, the company contended the commission's order was not equitable because it failed to give sufficient consideration to acreage and other factors, and to the difference between the best and worst wells in the field, and that the order prevented the company from recovering its just share of oil from under its Todd-B lease. The company was granted an injunction by federal Judge H. J. McMillan at Austin on June 12, 1939, which allowed it to produce the five wells on its Todd-A tract at substantially higher rates. The District Court's ruling was affirmed by the U. S. Appellate Court at New Orleans on November 3 of last year.

Wide Discretionary Powers

In upholding the commission many authorities on oil proration construe the ruling to the effect that findings of oil-regulatory bodies, if supported by testimony of expert witnesses, will be upheld by federal courts regardless of whether conflicting evidence is given by complaining companies. Thus they feel the court's decision gives the commission, and other oil-state regulatory bodies, wide discretionary powers in the administration of proration. Should the commission, after holding a hearing, decide upon a method of allocation not agreeable to, or in conformance with, testimony of oil-company engineers the commission would be upheld in the courts. For, as stated in the court's opinion, "It is not for the federal courts to supplant the commission's judgment even in the face of convincing proof that a different result would have been better."

Some attorneys also feel the commission was given a much firmer basis for offsetting claims of companies that a commission order was resulting in their oil being confiscated as a result of drainage by offset leases. They point out the court said: "Certainly, so far as the federal courts are concerned, the evolution of these formulas belong to the commission and not to the judiciary. . . . Except where the jurisdiction rests, as it does not here, on diversity of citizenship, the only question open to a federal tribunal is whether the state action complained of has transgressed whatever restrictions the vague contours of the due-process clause may place upon the exercise of the state's regulatory powers. . . ." In view of these holdings some feel that future months possibly will see much of the litigation thrown into the state courts, based upon charges that the commission exceeded its powers and duties as set forth in the state statutes.

Asst. Atty. Gen. Edgar Cales is planning to cite the decision in a pending lawsuit on the state's appeal in the Circuit Court of Appeals to be heard early this week, arguing that under the Supreme Court's opinion the federal court does not have jurisdiction in this case, involving a permit to drill, and that the federal court or any other court does not have the authority to substitute its judgment for that of the commission.

May Adopt New Proration Order

Immediate result of the U. S. Supreme Court's holdings will probably be adoption of a new proration order. Commission officials have indicated a hearing will be held, after which a new order will be issued that probably will be patterned more closely after the sustained order than the present one. Chairman Smith has stated he favored readoption of the old potential basis of proration, as that method had been sustained by the courts. Commissioner Salder stated he would recommend that a new proration formula be instituted and a minimum per-well allocation be continued in the new order, but did not estimate what figure he would recommend.

From these two recommendations it would appear that any order adopted would give more weight to per-well allowables. This would aid the more densely drilled tracts and to a certain extent increase the participation of west-side operators. Under the current order per-well allocations account for about three-quarters of the total allowable, while under the potential method about 98 per cent of the allowable is prorated on a per-well basis. Thus, if the former method is reinstated, or an order of similar basis, the participation of more-densely drilled tracts of the "small" operators would be increased and that of companies owning less densely drilled leases decreased (Humble, about 15,000 bbl. daily, basically).

Should the old order, or a similar one, be reinstated, drilling in the field is expected to accelerate. Subsequent to the current order, which to an extent places emphasis on acre-feet of sand, drilling declined. Thus one that would place a much greater weight on the per-well allocations, thereby rewarding the more densely drilled tracts, would probably result in more requests for drilling permits. It also has been pointed out that since the companies which challenged the method of proration did so on the basis that they were being drained by offsetting leases, it is possible royalty owners might now force them to drill the necessary wells to prevent such drainage. Last fall it was estimated Humble Oil & Refining Co. would need over 3,000 additional wells if it were to drill its leases to the density of offsetting leases.

Commissioner Jerry Sadler stated he would recommend the East Texas field's daily production be increased by 50,000 bbl. daily and returned to 7-day production. To offset this rise in production he would reduce the allowables of 10 Gulf Coast fields producing crude of low-octane gasoline value, for which he states there was no demand. Some observers, though, feel such a move would be almost entirely without justification, basing their opinions on trends in crude stocks. During the latter 2 weeks of May, they point out, crude stocks in that field, as reported by the Bureau of Mines, increased approximately 800,000 bbl. Gulf Coast fields crude stocks likewise increased during that time, but since the first of this month their allowables have been lowered by about 10 per cent while that of East Texas was unchanged. Thus they feel the market for East Texas crude does not necessitate an increase in production.

In overruling the two lower courts' decisions Justice Frankfurter, who delivered the opinion, stated that these two courts appeared to have been dominated by their own conception of the fairness and reasonableness of the challenged order. He granted that the judgment of the two lower courts may have been wiser than that of the commission, and their standard of fairness a better one, "but whether a system of proration based upon hourly potential is as fair as one based upon estimated recoverable reserves or some other factor or combination of factors, is in itself a question for administrative and not judicial judgment."

Minority Opinion

In the minority opinion by Justice Roberts, the decision being six to three, he pointed out the lower court's opinion announced principles with respect to the review of administrative action challenged under the due-process clause directly contrary to those which had been established. He thought adherence to these principles required the affirmance of the decree.

Justice Frankfurter, though, stated it would be presumptuous for the courts, on the basis of conflicting expert testimony, to hold the commission's action a violation of the fourteenth amendment. He said:

"According to the commission's experts, theories of allocation, urged by the respondent and accepted by the courts below, would in fact give the respondent more than its fair share of oil in the field. . . .

"Plainly these are not issues for our arbitrament. The state was confronted with its general problem of proration and with the special relation to it of the small tracts in the particular configuration of the East Texas field. It has chosen to meet these problems through the day-to-day exertions of a body specially entrusted with the task because presumably competent to deal with it. In striking the balances that have to be struck with the complicated and subtle factors that must enter into such judgments, the commission has observed established procedure. If the history of proration is any guide, the present order is but one more item in a continuous series of adjustments. It is not for the federal courts to supplant the commission's judgment even in the face of convincing proof that a different result would have been better."

STATE CAPITALS...

KANSAS

A NEW METHOD of establishing allowable production was put into practice by the Kansas Corporation Commission this month. The commission has discontinued the practice of declaring that a specified market demand shall be effective as of a given date. The orders now establish the total daily allowed production for the state and thereafter allocate the same among the prorated pools after having first deducted therefrom the full production of the minimum pools.

The total daily allowed production of Kansas in June was fixed at 178,000 bbl. by the commission. Of this total, 159,000 bbl. was allocated to the prorated pools and wells after having deducted 43,257 bbl. for the minimum, or unprorated, pools; 15,000 bbl. per day was allocated to the wells and leases credited with accrued shortages, and not to exceed 4,000 bbl. per day was allocated to the wells completed during the month.

TEXAS

A MAJORITY OF THE RAILROAD COMMISSION of Texas said Monday new proration orders contemplated for issuance June 19 would return the East Texas field production to a basis similar to an old allowable schedule recently upheld by the U. S. Supreme Court.

Whether the new order would abolish 14 shutdown days per month in that field, Chairman Lon A. Smith and Commissioner Jerry Sadler refused to say.

The commissioners also stated they contemplated a slash in allowables for unnamed fields in the Texas Gulf Coast production area and an increase for certain Panhandle fields, where, they said, recent cuts had caused waste in that some wells were being killed.

The Railroad Commission's proration order for June, July, and August cut Texas production approximately 15 per cent to a daily allowable of 1,334,060 bbl., a drop of nearly 100,000 bbl., and more than 10,000 bbl. daily under the Bureau of Mines estimate of market demand.

The commissioners made it clear they did not believe a state-wide or divisional hearing would be necessary to take evidence on which to base new orders for the East Texas, Gulf Coast, or Panhandle areas.

They said the orders might be forthcoming June 19 because the firm of Rowan & Nichols was permitted until June 18 by the Supreme Court to file an application for a rehearing. The ruling would become final if the company had not requested a hearing on or before that date.

"If they file," said Mr. Sadler, "we will write a new order exempting the Rowan & Nichols lease.

"The reason for the contemplated cut in the Gulf Coast fields is the confusion resulting in production of low-octane gasoline yielding high-gravity crude which is accumulating due to lack of purchasers. This is causing physical waste.

"There is a firm market for more oil in the Panhandle and those fields should have a greater allowable," Mr. Sadler continued. "They have suffered considerably under recent cuts, the last one reducing them to 15 bbl. daily per well.

"We expect the cut in the Gulf Coast fields and increases in the Panhandle field to about offset each other."

WATER PRODUCTION IN THE EAST TEXAS field dropped from a high of 199,738 bbl. per day from 4,428 oil wells, in November 1939, to 179,681 bbl. per day from 4,616 oil wells, in April 1940, according to a report to the Railroad Commission. Chief Supervisor John E. Taylor who made the report said he had not determined the cause for the reported decline in water production, while Dr. F. V. L. Patten, director of production, advanced the thought that the figures for April might be subject to error as a result of the recent suit brought by the attorney general's department against a number of companies charging pollution of the Sabine River. Prior water reports were used by the attorney general in preparing the complaints. Salt water reinjected is not deducted from the reports of total water withdrawals, he said. In recent months, there has been rapid development in salt-water injection operations, and under permits granted by the Railroad Commission for reinjection it is estimated generally that 30,000 bbl. daily are being returned.

With the reported decline in total production, the per-well flow of water likewise declined, dropping to 38.93 bbl. daily in April as against a high of 45.11 bbl. last November.

Wells producing by artificial methods rose to 7,975 in April, compared to 7,407 in April 1939.

There were 948 flowing and 3,337 pumping wells making water in April 1940, compared to 1,031 and 3,914, respectively, in April 1939. Out of the 6,242 pumping wells in the field in April, compared to 5,786 in April 1939, there were 2,905 in April not making water, 2,772 a year previous.

A steady gain in the number of air and gas-lift wells was shown, rising from 603 in January, 590 in April, 693 in July and 720 in November 1939, to 785 in April 1940.

A SUIT TO PARTITION LAND must be brought in the court where the land or a part of it is located, the Texas Supreme Court in effect held recently in an opinion written by Judge Richard Critz. The opinion was in answer to certified questions from the Civil Appeals Court at San Antonio in the case styled Hattie M. Pena v. W. H. Sling, instituted as a suit to partition land in Duval County but filed in Bexar County.

To answer the certified questions Judge Critz found it necessary to construe Article 6082 and 6083 and Article 1995, with particular regard to Provisions 13 and 14, which he referred to as Exceptions 13 and 14. Exception 13, he pointed out, provides that a partition suit may be brought in the county of residence of any of the defendants, and divers other specified places. The last phase of Exception 13, he pointed out, provides that "nothing herein shall be construed to fix venue of a suit to recover title of land," and Exception 14, specifically provides that title suits must be in the county where the land is situated.

"Plainly . . . a partition suit to partition land must be brought in the county where the land is located, if in such suit, jurisdiction of the trial court will be invoked by any party to recover land or to try title. If this construction is not correct, the provision becomes meaningless and the venue of a land-title suit or land-recovery suit as fixed by Exception 14 can be defeated by simply filing a statutory partition action."

CALIFORNIA

TRIAL OF 39 OIL COMPANIES and 2 trade associations on charges of violation of the antitrust laws was set for November 19, 1940, by federal Judge Paul J. McCormick who will hear the case at that time. On June 3, 29 oil companies and 2 trade associations that had not previously entered pleas entered a not-guilty plea. Ten other defendants had previously pleaded not guilty. The trial may last several months. The setting of a date for this trial is the result of an indictment brought in November 14, 1939, by a special federal grand jury. The indictment charges an illegal conspiracy to artificially raise and maintain gasoline prices in the Pacific Coast region in violation of existing antitrust laws. Since return of the indictment and before the date was set for trial of the case, California marketers ceased, by mutual consent, all dealings that might be charged in the indictment. Accordingly the Independent Refiners Association of California, Inc., has suspended operations and to all intents and purposes has passed out of existence.

ILLINOIS

AVOIDING CONSIDERATION of measures which would have increased the current tax burden, including a bill levying a tax of 5 cents per barrel on oil, the Illinois Legislature adjourned a special session on June 6. The special session, which started April 30, had been called by Governor Horner to enact legislation to increase old-age assistance payments from $30 to $40 per month.

Legislators of both political parties sidestepped commitments on all revenue-raising bills because of sharp criticism from constituents during the current political campaign. Rep. Paul Powell (Democrat), of Vienna, and Rep. Andy O'Neill (Democrat), of Springfield, introduced the oil-tax bill the first day of the session, but the measure failed to move past first reading on the house calendar. Mr. Powell said he will introduce a similar measure at the regular session next January.

Failure of the general assembly to provide funds to make increased old-age assistance payments leaves the state budget in a precarious position. On the closing day of the session Republican members predicted a deficit of more than $4,000,000 at the end of the present year. Democratic members said proposed economies will create a surplus in excess of $1,600,000 for the same period.

Two weeks before the session adjourned, state Finance Director S. L. Nudelman officially predicted a biennial deficit of more than $5,000,000 in testimony presented at sessions of a special legislative investigating committee. Mr. Nudelman's estimate was for the current biennium ending July 1, 1941.

Leaders of both political parties conceded likelihood of passage of oil-tax measures at the regular session next year together with possible consideration of proration or conservation bills.

LOUISIANA

THE SENATE LAST WEEK unanimously voted a resolution providing for a complete investigation of the Louisiana Conservation Department and the state Minerals Board, covering the granting of all state leases. It is expected that this investigation will serve to return to the state millions of dollars, illegally obtained by improper leasing of state lands in the past few years. A bill in the house will appropriate $50,000 to carry out the work. The investigation will be limited by no particular period, and may go back in the department's record as far as it wishes, it was asserted.

The investigation will pave the way for far-reaching proposals in the future administration of the Conservation Department, under Maj. B. A. Hardey, present commissioner. He has been asked by the house appropriation committee to provide it with data on existing oil surveys in the state, and a report on the cost of drilling wells on state-owned lands. This action is in preparation for plans whereby the state will develop oil properties on state lands itself, for which a working fund of $2,000,000 is asked.

Other legislative action in the state regarding the oil industry includes a bill introduced in the senate, comprising all features of model conservation acts now under consideration or in effect in other states. Among other advanced provisions, it will give the conservation body the powers, after study of testimony in open hearings, to regulate production of high-pressure gas-condensate reserves, and to require the cycling of gas where such operation is deemed necessary in the interests of conservation.

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

Returning the Ball

Comment, both within and outside the oil industry, during the past week indicates there is considerable confusion as to the significance of the U. S. Supreme Court decision in the Rowan & Nichols case.

The decision is clear in establishing responsibility in the application of conservation. Any misunderstandings will add to the confusion already existing over the promulgation and enforcement of state regulations which in the final analysis must be based upon the conservation of natural resources.

In this case the basic principle had to do with the conservation practices which should govern the allocation of allowables in the East Texas field which still represents more than 10 per cent of this country's crude production and a larger percentage of its proven reserves.

The plaintiff company was sustained in the lower courts in its contention that the proration plan, in which well spacing was ignored, was illegal and that the order of the Railroad Commission should be revised to give more consideration to acreage and oil in place.

The high court washed its hands on the issues by holding that, while there might be some merit in the claims of the plaintiff company, this was not a matter that the federal courts should consider. The majority in the six-to-three decision concluded that "it is not for the federal courts to supplant the commission's judgment even in the face of convincing proof that a different method would have been better."

This statement, and others contained in the majority and minority opinions, indicate that the court fully appreciated the fact that there have been inequities in proration as applied in East Texas, but held in the light of conflicting claims that these were matters which must be remedied by the administration to which the authority had been delegated by the state.

The Texas Railroad Commission was in no sense given a clean bill of health by the court's decision. Furthermore, the conclusion by some that the decision decreases the danger of federal interference in the industry's operations is not true. The opposite conclusion is in fact more accurate.

The decision greatly increases the responsibility of the state regulatory bodies in assuring equitable regulations in carrying out state conservation programs involving the granting of allowables to thousands of operators within the producing areas.

Any one who has followed the application of proration rules in the East Texas field, and in many other areas in Texas, knows that they often have fallen far short of meeting sound conservation principles based upon accepted standards in operating practices.

The situation in some of the other producing states is no better. It is now apparent that the federal courts will not be permitted to interfere in this matter so long as the deficiencies can be ascribed to transitions in administration policy. The states must accept full responsibility for the failures which now and in times past have threatened the stability of the entire industry.

These failures if continued will be an invitation for federal interference and the ending of state control.

Operators who have suffered through the imperfections of state administrations and who are now apparently barred from relief through the federal courts conceivably can be brought to a position where they would favor reversing their present opposition and seeking relief through federal legislation and administration.

The Supreme Court decision in the Rowan & Nichols case has passed back the ball to the Texas Railroad Commission. The industry will be interested in seeing whether that commission will continue to fumble it.

Foreign and Domestic Situations Analyzed by President Farish

NEW YORK, June 10.—Announcing that the earnings of the Standard Oil Co. of New Jersey in the first half of this year would be at a near-record figure, W. S. Farish, president, told stockholders at their annual meeting at Flemington, N. J., last week, that excluding subsidiaries in the European war zone and some others for which figures are not available, "earnings for the first 6 months of this year would be something in excess of $70,000,000, which is roughly a little less than $3 a share on the capital stock outstanding."

Mr. Farish expressed the opinion that in the final 6 months of this year the company's net income might be less than in the first half. He did not look for any material decline in the volume of business, but said that indications were that the margin of profit would be smaller. In the first half of this year the total volume of business probably was 2,000,000 bbl. below that of the similar period last year due in part to a shifting in the demand for some products.

"There has been some shifting in volume," he said. "Less gasoline is going to Europe due to the governmental restriction on domestic and civilian use; more fuel oil, naphtha and lubricating oil is moving abroad. There has been some increase in business in this country and in South America so that the net effect of volume is pretty much balanced this year compared with last year. We cannot make any predictions as to the state of business over the next 6 months. We think our volume will keep up fairly well but margins are not as good as they were, and certainly the margin of profit will not be as high as it was in the earlier part of the year."

Effect of War on Properties

Asked what might happen to the company's foreign properties as a result of the war, Mr. Farish said he could not say definitely, but added:

"We are confident, however, that in the final shakedown we still will be doing business abroad. The physical set-up of so-called reserves, variously estimated to be around 6,000,000,000 bbl. of crude oil and with refining and marketing facilities in virtually every country, we feel that we are going to be needed in whatever world there is when this war is over. We feel that the oil industry is such a vital part of the necessary workings of the world today that somewhere, somehow, when the final bell is rung we still will be doing business."

In all of Europe and North Africa, Mr. Farish said the total net assets of the company approximated $165,000,000 out of a grand total of $1,275,000,000. European investments are in the United Kingdom, the British Isles, Germany, France, all Scandinavian countries, Switzerland and Italy.

The only production of any consequence, he added, was in Rumania and Hungary. In the former country it approximates 15,000 to 16,000 bbl. daily, and there is a refinery in Rumania which refines about 20,000 bbl. daily. In Hungary an oil field is producing about 5,000 bbl. daily, but there is no refinery in that country.

Refinery-plant investments are held in Germany, making asphalt and lubricating oil, and some hydrogenation products. A small refinery is owned in Denmark, another in Belgium, one in southern England and one in Italy. Small production obtains in Italy. The remainder of the European investment represents terminals and marketing.

Dividend remittances from Canadian subsidiaries are made with permission of the Canadian Government at the official rate, which is about a 10-per cent discount against the free rate which is at a discount of from 20 to 25 per cent, said J. E. Crane, treasurer, in answer to a stockholder's question.

As for business with Europe and North Africa, Mr. Farish said that "up to the present time we have secured dollar exchange for all goods shipped this year. In all countries outside the United States unremitted balances, including those for several years, amount to less than $5,000,000. We are not advancing any credits abroad, not even to our subsidiaries there."

Asked about the company's properties in Bolivia and Mexico, Mr. Farish said the Bolivian situation is now under discussion as to arbitration. The Mexican situation, he said, is in the hands of the State Department. The claims the company has made on Mexico deal fundamentally with subsoil rights and property rights which "we think must be protected under all circumstances, and therefore we have not been willing to enter into a compromise or surrender agreement with the Mexican Government just in order to have a settlement of the question."

The Standard of New Jersey operates 205 ocean-going tankers, many of which are under foreign flags, Mr. Farish replied in answer to a question relating to marine operations in the last few months.

"There are 16 or 17 tankers under the British flag and 4 or 5 under German registry, all of which have been taken over and under the control of these governments. Several vessels also are under Norwegian, Danish and Belgian registry and we also do not have any control over these."

He said that the company had two tankers under the Danish flag at St. Thomas, Virgin Islands, but that the management was afraid to let them go to sea for fear the British would seize them.

Asked by a stockholder as to the prospects for dividend, Mr. Farish said he could only give his own opinion, but it was a matter for the board of directors to decide. *(Continued on Next Page).*

Changes in Standard Executives

EUGENE HOLMAN

F. W. ABRAMS

C. H. LIEB

NEW YORK, June 10.—Eugene Holman, head of South American producing operations, and Frank W. Abrams, president of a manufacturing subsidiary, were elected directors of Standard Oil Co. (New Jersey) at the annual meeting last week in Flemington, N. J.

G. H. Smith, of Toronto, Canada, president of the Imperial Oil Co., Ltd., resigned as director of the Jersey board to devote his entire time to the subsidiary company.

Election of Mr. Holman and Mr. Abrams to the "big board" marks another forward step in careers which started with subsidiaries of the parent company 21 and 28 years ago, respectively. Mr. Holman has been for the past several years president of Creole Petroleum Co. and Lago Petroleum Corp., and has served as a director of numerous operating subsidiaries in Latin America. He began his career as a geologist, joining the U. S. Geological Survey after service in the Army Air Corps during the World War. In 1919 he joined the Humble Oil & Refining Co. and rose to chief geologist in 1925. His work attracted the attention of officials of the Jersey company at 26 Broadway and in 1929 he resigned from the Humble to became assistant to E. J. Sadler, vice president of Standard Oil Co. (New Jersey). Mr. Holman is a graduate of the University of Texas, where he specialized in geology.

As president of Standard Oil Co. of New Jersey (incorporated in Delaware), Mr. Abrams has headed the parent company's chief operating subsidiary since 1933. He has spent his entire business career of 28 years with the Standard. Starting as a draftsman at Eagle Works in Jersey City in 1912 after obtaining his civil engineering degree from Syracuse University, Mr. Abrams came up through the ranks, eventually becoming superintendent of Eagle Works and a member of the company's manufacturing committee. In 1922 he was made manager there and also assumed charge of the refinery at Parkersburg, W. Va. During this period he found time to supervise construction of the refinery for a subsidiary, the Nederlandsche Koloniale Petroleum Maatschappij at Palembang, Sumatra, Netherland East Indies. In 1926 Mr. Abrams was appointed general manager of the company's three New Jersey refineries. The following year Standard Oil Co. (New Jersey) was made a holding company and Mr. Abrams was made a director of its chief domestic operating unit. He succeeded C. G. Black as president of the "Delaware company," as it was known, in 1933.

C. H. "Pete" Lieb, vice president of Creole, and formerly president of Carter Oil Co., Mid-Continent operating subsidiary, who was brought to New York about 3 years ago, is slated to succeed Mr. Holman. Chester Smith will succeed Mr. Abrams as president of the "Delaware company." Formal election of Mr. Lieb and Mr. Smith is pending the call of special meetings of the boards of the two subsidiaries.

"We have, in this company, paid a $1 dividend from the beginning," he added. "We have never paid less than $1 in either good years or bad years. In good years we have paid as much as we felt the business could stand. Unquestionably, there will be a 50-cent regular dividend at the end of the year. What will happen in the way of extra dividends at that time is something I cannot answer frankly. It will depend on the state of business and on the profits of the company."

Another stockholder asked what effect the defense program will have on the company's business. Mr. Farish said that as yet no one knows what the defense program is going to be, but it is to be assumed for the purpose of trying to answer the question that the country is planning major activity in building airplanes, tanks, guns, ammunition, and munitions. Mr. Farish said if such activity does take place, it will mean an improvement in business which will stimulate the operations of Standard Oil Co.

"As for making a special demand on the oil industry," Mr. Farish said, "I don't look for that, at least not for a while, but whatever the demands are, the oil industry is the only industry in the United States unsubsidized, without any government favors, but suffering under government taxation all the time, that is capable of furnishing any reasonable demand that might be made upon it. The industry is equipped to produce and manufacture more. The only possible new effort or new investment that might have to be put forward would be to meet a doubling in the demand for 100-octane gasoline used in airplanes. That would require some new construction but it can be done."

Answering another stockholder as to production of explosives by the oil industry, Mr. Farish said the companies today can make toluol from oil in substantial amounts.

"It can be made profitably at the average price at which toluol has been selling in recent years," he added, "where the demand would justify it. We are not in the business, and I think it will be the policy of our company not to get into it unless it is a direct government request."

In answer to a question as to the reason why the Standard of New Jersey had not been expanding operations at its plant at Bayonne, N. J., in recent years, he said:

"Despite its size, Standard of New Jersey must meet competition or soon die, and to meet it the company must have operating costs at a level commensurate with other companies. In the last 8 or 10 years the company has reduced its manufacturing cost in every division, which it had to in order to meet competition. Local taxes play an important part in costs. For instance, these vary from 1½ cents a barrel for crude oil processed in some plants to 12 cents at Bayonne. If we can make 10 cents a barrel on all throughput, we are abundantly happy."

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THE MARKETS*

CRUDE OIL: Production in the United States last week rose to 3,808,932 bbl. per day, an increase of 159,752 bbl. per day over the revised total of the previous week. In the course of the past week it was found that East Texas production in the week ended June 1 had been 298,100 bbl. per day instead of 396,591 bbl., and that the United States' production for that week had been 3,649,180 bbl. In the week ended June 8 Illinois production hit a new peak of 455,923 bbl. per day because of a large increase in Devonian lime production in the Centralia field.

REFINERY: Increased activity of industrial plants imparting firmer tone to heavy fuels and lubricating oils. Gasoline moderately steadier as consumption rises, but excessive stocks keeping prices down. Marked weakness develops in kerosene, and all light fuels softer. Bright stocks and neutrals holding in East, but off another cent in Mid-Continent. Natural gasoline extremely weak.

TANK-WAGON AND POSTED-DEALER: Except for Continental's advance of 1 cent in tank-wagon and dealer prices of gasoline in Albuquerque only minor changes at scattered points were reported.

FINANCIAL: Although the market as a whole touched a new low for the year, the oils closed higher than in the preceding week. A rise of five points in Standard of New Jersey from its low of the week attracted attention. Average of 30 representative stocks for week ended June 8: High, 20.58; low, 19.39; close, 20.18. Week ended June 1: High, 20.76; low, 19.22; close, 19.95.

*Detailed information in market section.

Appeal Will Be Taken in Pan American Case

NEW YORK, June 10.—Minority stock interests of Pan American Petroleum & Transport Co. won a decision in the state Supreme Court last week in an accounting and damage suit against the Standard Oil Co. of Indiana, majority stockholder.

Justice Samuel L. Rosenman found Standard Oil Co. of Indiana had enriched itself at the expense of Pan American Petroleum. He appointed Clarence J. Shearn, former justice of the Appellate Division, as referee to determine damages since April 1, 1933. Standard interests will appeal.

The proceedings were started 6 years ago. The plaintiffs included the estate of Louis Blaustein, former president of Pan American and founder of American Oil Co.; Jacob Blaustein, a former vice president of Pan American and son of Louis Blaunstein, and companies controlled by those interests. The complaint charged that Standard of Indiana had stifled competition by Pan American, of whose stock it owned 78 per cent. The Blaustein interests controlled 20 per cent. A number of officers of Standard of Indiana were listed as defendants, as was Standard Oil Co. of New Jersey and several of its officials.

Justice Rosenman found for Standard Oil Co. of New Jersey and its officials. He held five individuals connected with the Standard Oil Co. of Indiana were liable in the accounting and damage proceedings, but emphasized "there is no claim and no finding that any of the individual defendants profited personally in any way in any of these transactions."

Justice Rosenman directed that Standard of Indiana account and pay to Pan American profits made by the Standard Oil & Gas Corp., a subsidiary of the Indiana company, on all crude oil sold to Pan American since April 1, 1933. He held that Edward G. Seubert, Charles J. Barkdull, Louis L. Stephens, Edward G. McKeever, and James A. Carroll, Jr., were responsible with the Indiana company.

The Indiana corporation was ordered as "a constructive trustee of Pan American to transfer to it all oil properties acquired from it by Standard Oil & Gas in the East Texas and Gulf Coast fields from April 1, 1933, to July 1, 1935, upon proper reimbursement by Pan American of all the costs thereof; or if this cannot be done to pay Pan American a reasonable value thereof, including the potential value of the reserves."

Damages to Pan American were ordered for failure by the Indiana corporation to permit Pan American to construct its own gathering system and direct pipe line in the East Texas field.

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Shell to Move St. Louis Offices To New York City

ST. LOUIS, Mo.—Shell Oil Co., Inc., has announced that administrative offices will be transferred to New York from St. Louis "to permit the complete consolidation of the managerial activities of the company east of the Rocky Mountains."

In a statement the company said:

"The move to New York City has been under consideration for a long time but now, largely as a result of the merger of the eastern and middle western properties of the company, which occurred last year, the transfer of the administrative offices can no longer be deferred. It is anticipated that the consolidation will become effective in the fall of this year.

"The central division of the marketing branch will continue to maintain headquarters in St. Louis. St. Louis will also continue as the center of an extensive transportation system for refined products by rail, truck, pipe lines and by barge shipments on the Mississippi River and its tributaries."

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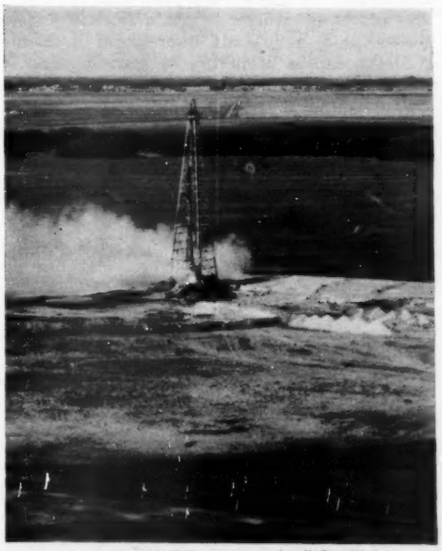

Airplane view of Barnsdall Oil Co.'s No. 1 Stoddard in Wilson Creek field, Matagorda County, Texas, taken while well was blowing wild, making a large flow of gas and distillate. The well was placed under control and flowed 402 bbl. through the drill stem in the 24 hours ending Monday morning. It opens a pool

DEATHS

CHARLES DUFUR BERRY, 57, treasurer of James B. Berry Sons Co., Inc., and Quaker State Oil Refining Corp., died last week in Oil City, Pa.

CARL A. REINHARD, Sr., 55, oil pioneer, died at Houston, Tex., last week. He was a veteran of the 1902-1903 boom at Spindletop near Beaumont, Tex.

LESTER GEORGE METCALF, 52, marine superintendent of the Union Oil Co., died at San Marino, Calif., June 5. He had been with Union Oil since 1914, advancing from pipe-line division engineer to manager of refineries and later manager of manufacturing divisions, receiving his last appointment a year ago. He supervised the design and construction of the company's recently launched tanker fleet.

JERE K. ROSS, of the Wailes Dove-Hermiston Corp., died recently at Bonnie Burn Sanatorium, Scotch Plains, N. J. He joined the corporation as a chemist in the production laboratory in 1928, later became field chemist, then superintendent of field operations, and shortly before his fatal illness was advanced to manager of the contract department.

ASA DAN MORTON, 68, veteran oil operator of Bartlesville and Tulsa, died last week at his home in Los Angeles. He was a native of Tennessee, graduated from McMinnville College as an engineer, and went to Indian Territory where he was employed by the Department of the Interior to survey the country prior to the allotment of lands to the Five Civilized Tribes. Later he entered the oil business.

Automotive Engineers Asked To State Future Fuel Needs

WHITE SULPHUR SPRINGS, W. Va., June 13. Refinery engineers want to know what types of fuels are needed for the motors of the future, according to the questions contained in the papers delivered by refinery technicians who are attending the thirty-fifth annual summer convention of the Society of Automotive Engineers in session here this week.

The inference throughout the discussions was that refiners are now equipped to enlarge greatly the types of fuels to be made available and by means of alkylation, polymerization, isomerization, catalytic cracking, and catalytic reforming they are able to synthesize almost any type or kind of fuel.

The refining industry has reached a position in its research and commercial program of catalytic polymerization, catalytic alkylation, catalytic cracking, etc., to permit it to manufacture almost any kind of hydrocarbon from crude oil. Several thousand individual hydrocarbons are theoretically possible to produce within the present distillation range of motor and aviation gasolines and it was the purpose of refinery chemists attending the thirty-fifth meeting of the Society of Automotive Engineers to ask the designers of motor-car and airplane engines what kinds of fuel are preferred and how much more a new fuel could cost over ordinary gasoline before it would be considered uneconomical. The same can apply to diesel fuels and lubricants, and the extent of the development in each case will depend upon the economic justification.

Catalytic Work

The position of the refiner has been greatly improved in recent years by the commercial applications of catalysis to motor-fuel manufacture. However, these applications involve the expenditure of more money on the part of the refiner for equipment and for operations of the units than is required when just skimming and thermally cracking. It is only natural that the refiner raise the question whether the cost of synthesizing one type of hydrocarbon or another will be justified.

The refinery engineer is prepared to make almost any hydrocarbon in the boiling range of gasoline, but relative yields and usable values must be considered in the commercial production of such fuels. This problem is especially well presented in a paper by D. P. Barnard, of Standard Oil Co. (Indiana), and R. B. Cragin, of the M. W. Kellogg Co., in which the authors review first the characteristics of individual hydrocarbons in the normal motor-fuel distillations range and then indicate the availability of each. Their paper includes the suggestion that refinery chemists and automotive engineers consider the production and use of cyclic or naphthenic hydrocarbons as well as the straight-chain or paraffinic.

Speaking specifically of the manufacture of aviation fuels, Dr. Barnard said:

"Present-day processes, and in all probability processes of the future, used for the production of high-octane, high-boiling-range materials, resolve themselves into two distinct classes: those which produce paraffinic-type fuels and those which produce highly aromatic-type fuels. It is believed that, from the standpoint of manufacturing cost and potential barrelage, processes of the latter type offer greater possibilities at the present time. On the other hand, it is a well-known fact that aromatics in general show a 5 to 7 per cent reduction in heating value on a weight basis as compared with paraffinic-type fuels. To the aircraft-engine designer this may be considered equivalent to a higher-octane requirement for the aromatic-type fuel in order to make possible comparable specific fuel consumption. Thus if aromatic-type high-flash fuels are to be adopted in preference to paraffinic-type fuels (assuming for the moment greater availability and lower cost), it will probably be necessary so to design aircraft engines to appreciate aromatics with respect to octane number. It is, of course, by no means a certainty that this can be done, but it is none the less a question which the aircraft engine researcher must answer before the petroleum chemist can most effectively direct his efforts.

"A brief review and discussion of possible present and future methods of high-flash fuel manufacture may serve to clarify the general problem. Processes which can be expected to produce paraffinic fuels are alkylation, catalytic polymerization, and isomerization. Processes which can be expected to produce aromatic-type fuels are catalytic reforming and catalytic cracking. Processes which can be expected to produce fuels of mixed type are hydrogenation and thermal polymerization or gas reversion followed by hydrogenation or acid treating. Unfortunately an analysis of possible processes involves a certain amount of speculation, since very little information is readily available on the properties of suitable fuels of high-flash boiling range."

After stating what type and quality of hydrocarbon series could be expected from each process, the authors presented these questions to the automotive engineers as a basis for future refinery design and research:

"What are the necessary properties of a high-flash fuel from the standpoint of A.S.T.M. distillation, flash point, octane number, and heating value?

"Does the aviation industry really want high-flash fuels?

"How quickly will the industry require large quantities of high-flash fuels?

"Can the industry pay a premium for such fuels?

"Can the aircraft engine manufacturer design an engine to take advantage of the octane number 'sensitivity' of aromatic-type fuels?

"Can a 'tolerance' in reduced heating value be established in terms of compensating octane number or compression-ratio increases?"

To emphasize the complexity of the problem of choosing the most economical hydrocarbon series, the authors pointed out that if high-flash hydrocarbons are desired as aviation fuels, it will be necessary to investigate the characteristics of several thousand and then it will be necessary to ascertain the cost of producing each on a commercial scale. The magnitude of this investigation is indicated by the fact there are 802 isomers of the C_{12} group of straight-chain hydrocarbons alone. This group lies within the boiling range of present-day high-flash aviation fuel.

Engine Heat Losses

Reducing the fuel problem to a more practical and present-day experience, Lloyd Withrow and Walter Cornelius, of General Motors Research Corp., presented data and pictures showing the heat losses in a modern gasoline engine. From the standpoint of the thermodynamic calculations, the work indicated a 19 per cent loss in heat during the fuel-burning period which was not accounted for in the pressure at the time the piston reached its full stroke. The author commented here:

"The extent of the reductions in power and efficiency resulting from the loss of a given amount of heat during combustion depends upon the effective expansion ratio of the engine. Under the conditions maintained for the present experiments (compression ratio of only 4.8 to 1) the complete elimination of the losses found with the thermodynamic charts would change the thermal efficiency of the engine from 22 per cent to approximately 27 per cent and would increase the mean effective pressure from 100 lb. per sq. in. to around 120 lb. per sq. in."

Safety Fuels

Pleading for observance of the practical side of manufacturing motor fuels, especially aviation gasoline, R. C. Alden and W. D. Parker of the Phillips Petroleum Co. presented some convincing data to prove that decreasing fuel volatility was not the whole answer to the problem of safety in aviation. While he advocated holding foremost the safe designing of fuels and engines he asked that the economics of the problem be considered also. He said:

"It is comparatively simple to discuss the abstract but economically important quality of safety. So many developments in refinery technology are taking place so rapidly no one can be sure of the full and final economic significance of any single factor. Likewise there are many developments in aeronautics to take into account.

"It does not seem entirely logical to assert that fuels of higher volatility might be safer than the so-called 'safety' or 'high flash' fuels. Nevertheless the safety record so far attained on fuels with flash points of about —30° F. does suggest the distinct possibility that greater safety may lie in the direction of fuels of still lower flash points. Certainly there are some dangers associated with the use of 'safety fuels' that are not encountered in the use of conventional gasolines and which would not be encountered with fuels of still higher volatility.

"One of the most difficult problems occurs at the outset. What will aviation need during the next 5 years in the way of fuels? Will it be so much more fuel than ever before that quality will have to be sacrificed; or will there be so great a reduction in the current emergency demand that volume can be sacrificed for quality?

(Continued on Page 40)

Business Men Given Chance To Work Out Defense Plan

By HENRY D. RALPH

WASHINGTON, D. C., June 10.—The national-defense program has taken business out of the New Deal "dog house," at least temporarily. How long the New Dealers will keep their hands off the advisory commission to the National Defense Council depends largely on developments, but the administration has definitely let it be understood that business is on trial.

It was by a narrow margin that the decision was reached to call in industrialists and place them in charge of coordinating the defense program. The original intention was to handle all defense matters through the regular government departments and agencies, giving them increased powers when necessary and using business men only as technical advisers. But that plan met immediate opposition from the country and also ran into snags very early in the game. Several industries objected to "suggestions" made to them by New Deal officials and it was soon deemed advisable to call in men thoroughly familiar with industrial problems and management.

When Messrs. Stettinius, Knudsen, Budd, and others were invited to Washington to form the advisory commission they came on condition that they would be given full responsibility and authority to do the jobs asked of them. Only after being given full assurance on this score did they accept their assignments and make the necessary arrangements to leave their business connections. It is true that under the 1916 law by which the advisory commission was appointed, the real powers are given to a Defense Council composed of cabinet officers, but President Roosevelt has explained that this is only a matter of form and that the commission will do the work. Apparently he meant it, for the commission has built up a capable staff of lesser business executives and has pitched into the task without reserve.

The duties of this commission are not to decide what airplanes, tanks, warships, guns and other military equipment is needed, but to see to it that whatever supplies the armed forces agree they need are produced as rapidly as possible and with the least disruption to normal business. Thus, it is a job of coordinating and placing orders and securing the maximum confidence and cooperation of business, and therefore business-trained men should be able to do this much better than either politicians or people whose thinking runs along the lines of social reform and regulation. Already the commission has made marked progress in bringing order out of confusion, and leaders of industries which are being called on first, such as airplane and machine-tool makers, are finding it much easier to work with the commission than with the regular departmental officials with whom they had previously been in contact.

When the Army and Navy are ready to let contracts the commission can decide whether the prospective bidders are equipped to deliver the material most expeditiously, and after contracts are let it assists by locating supplies of materials, tools, equipment, and labor. It can ask manufacturers to give priority to government work and postpone production for foreign or commercial use, and can suggest other rearrangements of normal business processes. It can bring pressure to bear to prevent profiteering and undue price increases, and to prevent strikes and causes of labor disturbances.

The actual powers of the defense commission are greater than its legal powers at the present, but there is a string tied to them. President Roosevelt himself is serving as chairman of the commission, and several strong New Dealers are sprinkled through its staff. The president has announced that the defense crisis is not to be allowed to sabotage any social gains of the last few years, to reduce wages or increase working hours of labor as long as there is unemployment, to increase prices to consumers, nor to make new war fortunes for a few individuals. New Dealers are suspicious of the commission, as they were suspicious of the industrial-mobilization report made by Mr. Stettinius last year and kept secret ever since. Their fear is that "tory influences" may get in the saddle if business is given too much leeway in running the defense program, and they would prefer strict regulation and control.

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Increased Corporation Taxes

A FURTHER increase in corporation taxes is carried in the revised revenue bill now before Congress with prospect of becoming law before the end of the month. It embodies the increase in gasoline and other petroleum taxes, effective July 1, which were in the original measure, but because of demands that more money be provided to finance the cost of the national-defense program, the ways and means committee decided on an increase in both corporation and individual income taxes. The original bill would have raised approximately $650,000,000 annually, while the revised measure will yield something over $1,000,000,000. All the 5-year supertaxes are retained, and in addition the regular corporation tax rates are increased by 1 per cent in all brackets.

Present corporation income-tax rates start at 12½ per cent on the first $5,000 and range up to 18 per cent on income above $25,000. The new bill raises each bracket 1 per cent and in addition the corporation would add the 10 per cent supertax to the amount of its tax computed the regular way. Administration leaders hope to get the bill through Congress in record time, but if a delay should develop it is probable that Congress will enact a special resolution imposing the increased oil and other excise taxes on July 1 so that more revenue will come in from these sources immediately.

The oil industry is not opposing the increased excises, but placed itself on record as calling attention to the disproportionate share of the tax burden borne by itself and its customers in order that relief may be asked at some future time.

Pipe-Line Hearing

REPRESENTATIVES of major oil groups expressed their opposition this week to a bill requiring new or extended oil and gas pipe lines to obtain certificates of public convenience and necessity from the Interstate Commerce Commission. The hearing was held before a Senate interstate commerce subcommittee whose chairman was Sen. Edwin C. Johnson of Colorado, author of the bill.

Because of the pressure of railroad companies supporting the bill, the measure is expected to be favorably reported to the full committee and perhaps to pass the Senate, but enactment into law this session is unlikely.

Principal witness for the petroleum industry was Fayette B. Dow, specifically representing the interstate pipe lines, the Pennsylvania Grade Crude Oil Association and the Western Petroleum Refiners Association. He pointed out railroads could hope to meet competition of cheaper forms of transportation only by better service and cheaper rates, and not by legislation. Mr. Dow emphasized the important role played by pipe lines in building the petroleum industry.

Spokesmen for the governors of Louisiana, Kansas, Oklahoma, and New Mexico declared the bill would greatly hamper the further development of pipe lines, and urged its defeat.

Other oil men who appeared to oppose the bill included John D. Gill, of Atlantic Refining Co.; J. C. Hunter, president, and George C. Gibbons, vice president, of Mid-Continent Oil and Gas Association; William R. Wallace of the Utah Oil Refining Co., and Jack Blalock, Independent Petroleum Association of Texas.

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Wage and Hour Definitions

THE Wage and Hour Division of the Labor Department was asked by oil-company spokesmen at hearings this week to relax provisions of the Fair Labor Standards Act which apply to certain employes in the petroleum industry. The hearings were concerned with a redefinition of the terms "executive, administrative, professional" and "outside salesman" in the manufacturing and extractive industries.

Clarel B. Mapes, executive secretary of the Mid-Continent Oil and Gas Association, submitted redefinitions under which the following administrative workers would be exempt: executive secretaries and executive assistants; section heads and chief clerks; auditors; traveling inventory men; district material men, land men or lease buyers; land and geological scouts; nonworking supervisors; production foremen and refinery-gang foremen; claim agents, and traffic men.

He listed the following employes who would be excluded as professionals: gasoline-plant chemists; fractionator foremen; operating assistants; seismograph specialists, including computers, observers, assistant observers and surveyors; field petroleum engineers, including test engineers and production engineers; safety engineers and first-aid trainers; tax men, social-security specialists and insurance specialists.

Pipe-Line Activity

Examination of coatings at site No. 11 on Stanolind pipe line near Skiatook, Okla., to observe results of the 10-year test sponsored by pipe-line technologists committee, American Petroleum Institute. A. E. Letts, research department, Skelly Oil Co., Eldorado, Kans.; K. H. Logan, Bureau of Standards, Washington, D. C.; J. Campbell Stirling, Stanolind Pipe Line Co., Tulsa; J. F. Putnam, research and development department, Standard Oil Co. of California, San Francisco

Pipe-Line Coatings Examined at Skiatook in 10-Year Test

Early this week tests conducted at the uncovering of pipe-line coatings were concluded at Site No. 11 near the Stanolind Pipe Line Co.'s station at Skiatook, Okla. Tests were part of a 10-year program for studying pipe-line coatings which is sponsored by pipe-line technologists committee, American Petroleum Institute. Work was done under the supervision of K. H. Logan, chief of underground corrosion section, Bureau of Standards, Washington, D. C., who was assisted by W. H. Johnson, junior scientific aide; J. Campbell Stirling, T. R. Aude, and R. H. Crowe represented Stanolind Pipe Line Co.

The research program with which this project is connected was initiated in 1930 when coatings were applied to pipe lines at 15 sites in various sections of the United States for testing pipe lines. Nineteen coatings were accepted. Fourteen of these coatings were selected for application on each site. A 1,160-ft. section of Stanolind's 6-in. crude-oil line in service between Hominy and Skiatook was selected. Coatings were applied August 29, 1930. The coated sections of the lines were divided into two areas designated as A and B and each of the coatings was applied once in each area for a distance of 30 ft. Between the 14 coated areas there were 13 bare areas, each of which was 20 ft. long. Control nipples of 3-in. pipe 2 ft. long were laid parallel with the pipe in the pipe ditch at pipe depth. Control nipples were coated only on the end. This was done to preserve the original pipe surface for reference. In addition, three sets of coated nipples of 46 nipples each representing 25 manufacturers were buried in the vicinity of the pipe line. In each of three previous years when coatings have been uncovered and examined, a 6-ft. section of each section coating has been removed. Tests have been made at the following intervals:

1931 after .74 year
1932 after 1.75 years
1934 after 3.79 years
1940 after 9.8 years

One set of coated nipples was dug up in 1932, in 1934, and in 1940.

Tests now being conducted conclude the 10-year program which has furnished data that will be presented in a report at the annual meeting of the American Petroleum Institute in November.

Tests have already been completed elsewhere at the following sites this year:

Site No.	Pipe line and location—	Size of pipe (in.)
1	Atlantic Pipe Line Co., Temple, Tex.	10
3	Gulf Pipe Line Co., Beaumont, Tex.	8
4	Humble Pipe Line Co., League City, Tex.	8
6	Oklahoma Pipe Line Co., Council Hill, Okla.	10
8	Pure Oil Pipe Line Co., Spindletop Gully, Tex.	8
9	Shell Petroleum Corp., Long Beach, Calif.	6
12	Standard Oil Co. of California, Mendota, Calif.	8
13	Standard Pipe Line Co., Bunkie, La.	8
16	Union Oil Co., Cholame Flats, Calif.	8

To complete the program future tests will be made as follows:

Date—	Site No.	Pipe line and location—	Size (in.)
June 13-21	2	Empire Pipe Line Co., Arkansas City, Kans.	8
June 23-July 1	7	Sinclair Refining Co., pipe line department	8
July 5-13	10	Shell Pipe Line Co., Mount Auburn, Ill.	8
July 15-23	5	Indiana Pipe Line Co., Preble, Ind.	8
July 26-August 3	14	Susquehanna Pipe Line Co., Chambersburg, Pa.	6

The program calls for uniformity of tests at each site at the time of each examination. After uncovering, a conductivity and pattern test is made which locates breaks in the coating; coating is then stripped off and the exposed pipe is examined for pits and the pits are measured. At each excavation soil resistivity tests are made with Shepard-Canes. Long-line currents are measured with millivolt meter. During the 8-day tests at Skiatook, 150 pipe-line executives, engineers, and representatives of coating manufacturers from various states visited the project.

Cities Service Will Lay 60 Miles in Kansas

Cities Service Gas Co. has completed buying right-of-way for a 12-in. pipe line from the Cunningham gas field of Kingman and Pratt counties to Wichita, all in Kansas, a distance of 60 miles. It will increase the output of the Cunningham pool, and will bring Kansas-produced gas to Wichita. Cities Service already has pipe-line connections to other gas areas in the state including the Derby pool, southeast of Wichita.

Line From North Louisiana To Eastern Tennessee

The Tennessee Gas & Transmission Co. of Chattanooga, Tenn., is applying to the Federal Power Commission for a permit to construct a gas pipe line from North Louisiana to eastern Tennessee. Preliminary engineering work is progressing on the proposed line with aerial mapping and right-of-way plans being carried out. The line will originate in the vicinity of Shreveport, La., where large gas reserves are available. The company will serve industrial and domestic consumption centers in central and eastern Tennessee, which are not now served with natural gas.

Memphis Natural Gas Lets Contract for 92 Miles

Memphis Natural Gas Co. awarded a contract to N. A. Saigh Construction Co., San Antonio, Tex., for the laying of 92 miles of 18-in. pipe in a looping program in connection with the company's system in Tennessee, Mississippi, Arkansas, and Louisiana. One gang will be used to carry on the work which is divided into four sections. Shipments of pipe are now being made. Operations have started at Greenville, Miss. Later, headquarters will be moved to Clarksdale, Miss., and Memphis, Tenn. The looping of the system will provide additional facilities for improving the transmission of gas under winter conditions.

Illinois Pipe Line Prepares To Lay 50-Mile Oil Line

The Illinois Pipe Line Co. is making a preliminary survey for construction of an 8-in. crude gathering line which will be about 50 miles' long, running from near Centerville to Bridgeport in Illinois.

Three 55,000-bbl. storage tanks will be erected on the J. F. Barber farm about a mile south of Centerville. The line will serve many southern Illinois fields, probably including the Lancaster and Albion areas as well as others. The line will have a daily capacity of about 35,000 bbl.

United Gas Pipe Line Co. Builds New Construction

United Gas Pipe Line Co. is building lines which will transmit gas from the Long Lake field in La Fourche Parish, Louisiana, to New Orleans and which will tie in with the Lirette gas field in Terrebonne Parish, Louisiana. Latex Construction Co., Houston, Tex., is carrying on construction work.

Preliminary Assessments on Pipe Lines in Texas

AUSTIN, Tex.—Preliminary assessments made by the state Tax Board of intangible-asset valuations of pipe-line companies reflected a 10 per cent rise over 1939 final valuations but a slight decline from last year's preliminary figures.

A total preliminary valuation of $51,094,256 was compared to a final valuation of $46,292,780 in 1939 and a tentative figure of $52,503,657 last year. Adjustments will be made after hearings. The number of lines assessed this year was 51, a gain of 13 from last year. For valuation, pipe lines were grouped into four classes: state-wide systems, one-field lines, gathering lines, and minor gathering lines.

Five of the Class A lines showed increases in preliminary valuations, two decreases, and one no change. Those with increased assessments were: Gulf Refining

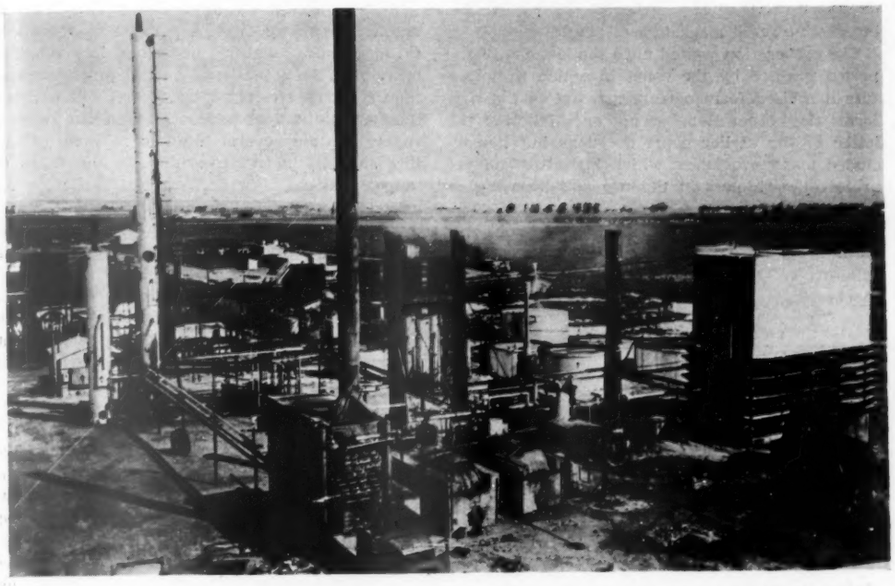
Co., $4,000,000, up $1,000,000; Sinclair Refining, $6,000,000, up $1,000,000; Texas Pipe Line Co., $2,642,100, up $634,400, and Texas-New Mexico Pipe Line Co., $3,600,000, up $1,013,000.

The preliminary assessment was not made officially on Atlantic Pipe Line Co., but preliminary figures placed the total at $5,317,556, an increase of $73,556. It is contending for segregating of its lines, rather than grouping into one class, which would reduce the valuation approximately $1,100,000.

Class A lines with decreases were: Humble Pipe Line Co., $8,900,000, down $59,000, and Shell Pipe Line Co., $3,500,000, down $150,000. Magnolia Pipe Line Co. was unchanged at $3,000,000.

Assessments of Class A lines were determined by capitalization of net income on a 15-year life expectancy, discounted 8 per cent compound interest to provide for emergencies and declines as also for others; Class B lines, 10 years; Class C lines, 7 years; and Class D lines, 5 years. The same formula was used last year.

Refinery Expansion



As the Santa Maria field of California adds to its crude-oil production, new refineries are built. This one is the Five C Refining Co. plant and is typical of the skimming plants in the area, except this one is equipped to make asphalt

Magnolia Is Expanding Fort Worth Refinery

HOUSTON, Tex., June 10.—The construction of a new cracking unit and a general expansion and remodeling program of its present cracking facilities is being started by Magnolia Petroleum Co. at the company's plant at Fort Worth. Completion of the new unit will increase the daily crude capacity of the plant from 6,700 bbl. to approximately 12,000 bbl. while the yield of high-octane motor fuel will be increased from 4,000 to 8,000 bbl. daily.

The expansion will make the plant one of the largest in North Texas, and the program is expected to be completed by February 1, 1941.

Chemical Plant Planned To Use Refinery Gases

TEXAS CITY, Tex.—It is reported here that construction is to be begun on a chemical plant for Carbide & Carbon Chemical Corp., unit of Union Carbide & Carbon Corp., to manufacture synthetic organic chemicals from refinery gases to be supplied by Pan American Refining Corp.

The plant is to be built midway between Texas City and La Marque, on a site of 200 acres between the properties of Pan American Refining Corp. and Southern Pacific Railroad. In addition to the buildings for chemical processing operations, a steam plant and compressor station using gas-engine-driven compressors will be constructed.

The operation, it is stated, will be similar to that at the Whiting plant of the chemical corporation where gases are obtained from the refinery of Standard Oil Co. of Indiana. Ford, Bacon & Davis are reported to have the general contract for construction of the Texas City plant.

Continental Starts Work on Lake Charles Refinery

Continental Oil Co. has started construction work at its new $4,000,000 refinery at Westlake, in the Lake Charles area of Southwest Louisiana. The work is being resumed after a delay last April caused by labor trouble.

A.P.I. Lube Program Approved By Marketing Committee

Approval of the program of activity recommended by the committee on lubrication was given at a meeting of the American Petroleum Institute's Division of Marketing general committee held in New York on June 5.

William H. Correa, of Socony-Vacuum Oil Co., Inc., New York, chairman of the committee on lubrication, described the objectives and proposed methods of promoting the program, after which the general committee approved the program as written.

Derby Oil Company Builds Copper Sweetening Unit

WICHITA, Kans.—According to an announcement by F. W. McCurry, vice president in charge of manufacturing, Derby Oil Co. has under construction a 2,500-bbl. per day Perco copper sweetening unit. This unit is being installed under license and design of Perco, Inc., and will be the solid-process type unit for the treatment of refinery straightrun gasoline.

Natural Gas

Another Oriskany Pool In Allegany County

COUDERSPORT, P.—The opening of another Oriskany sand gas pool in Independence Township, Allegany County, was indicated when Empire Gas & Fuel Co.'s No. 1 C. A. Wilson drilled into the sand and got a show gaging 1,000,000 cu. ft. in the first 2 ft. The well is 2 miles southwest of No. 1 Crandall, also in Independence Township, recently completed as a pool opener. It was also drilled by Empire Gas & Fuel Co. Despite the proximity of the wells, rock pressures indicate they are producing from separate pools. The rock pressure on No. 1 Wilson was 1,875 lb. while that of No. 1 Crandall was reported at 1,600 lb. The fact that higher production was mudded off in the latter may have affected its pressure.

No. 1 C. A. Wilson was spudded in March 27. Its elevation is 1,965 ft. It got the Tully limestone at 3,963-4,018 ft., the Onondaga at 4,564 ft. and the Oriskany at 4,612 ft. The interval between the top of the Tully and the Onondaga was 601 ft. and the indicated thickness of Onondaga was 48 ft. It was cased to 4,575 ft.

Gas Production in Texas Slightly Less in April

April natural-gas production for the State of Texas showed a slight decrease, 3.8 per cent, from March 1940, but a gain of 8 per cent over April of last year.

Pipe-line deliveries for the month reacted to seasonal influences and declined 8.89 per cent, but recycling and repressuring operations continued to expand as the volume of gas returned to the sand increased 9.38 per cent over the March input.

Carbon-black and gasoline-plant activities remained at about the level of the preceding month.

Natural Gasoline

Lockhart Recycling Plant, Corpus Christi, Improved

CORPUS CHRISTI, Tex.—Lockhart Oil Co.'s recycling plant, located near Corpus Christi in the Agua Dulce gas-distillate gas field, has made considerable improvement since its completion several months ago. Designed for a production of some 25,000 gal. per day, this plant, employing high-pressure absorption, is now manufacturing in excess of 35,000 gal. of distillate. Extraction efficiency is the highest of any reported results. Contributing to extraction efficiency is the reabsorption of vent-tank vapors.

This plant was designed by Petroleum Engineering, Inc., of Tulsa, and is operating under a license of Distillate Engineering & Processes Co.

Grapeland Recycling Plant Is Nearing Completion

Gasoline Production Co.'s recycling plant in the Grapeland field of East Texas is nearing completion and is expected to go into operation before the end of the month. Good weather has contributed to the rapid progress made in the construction of this project. This plant is being built by Zachry Construction Co. of San Antonio, Tex., under a license from Distillate Engineering & Processes Co.

Ethyl Improves Its Sales Position in Conforming To Court Decision

By W. T. ZIEGENHAIN

ONE week has passed since refiners received copies of the Ethyl Gasoline Corp. revised license and sales agreement and trademark authorization which were made necessary by affirmation on March 25, 1940, by the Supreme Court of a decision rendered August 14, 1939, against the corporation by the U. S. Court of the Southern District of New York. Generally, refiners feel that much good will come of the manner in which the Ethyl Gasoline Corp. has met the letter and spirit of the court decisions and at the same time improved the sales position of Ethyl Gasoline. They expect greater stability of gasoline retail markets as a result.

The corporation waited until the last day of the period granted by the court in which to substitute a revised form of contract, but in the new forms the corporation has not only followed the letter of the earlier court decisions but has included many provisions which liberalize and yet protect the refiners in the use and licensing of jobbers and dealers.

The principal differences between the old and the new agreements, together with representative opinions of their effect upon the retail market appear below:

NEW PROVISIONS . . .	EXPECTED RESULTS . . .
Jobbers and resellers do not need licenses from the Ethyl Gasoline Corp. to sell ethylized or treated gasolines.	Greater use of tetraethyl lead will result and the octane value of all grades of gasoline will continue to advance.
No maximum octane specification is provided for any grade of ethylized gasoline.	The quality of regular-grade gasoline will approach that of Ethyl Gasoline and price differentials will shrink.
No stated price differential is provided among the various grades of treated gasolines.	Retail gasoline prices will continue to lack uniformity.
All ethyl-treated gasolines will be colored other than red.	Most regular and third-grade gasolines are already colored, but the new regulations will single out untreated gasoline as inferior despite any naturally high octane value it might have.
Licensee agrees not to use "Ethyl" trademark or "Q" trademark or any word which associates the Ethyl Gasoline Corp. with the sale of the regular or third grades.	The practice of erecting signs to display the word "Ethyl" when advertising the regular or third-grade gasolines will be discontinued because abuse of the word has led to motorists buying the lower-priced fuels, thinking they had bought Ethyl Gasoline.
Licensees are not obligated to use the word "Ethyl" in advertising or when displaying their "Ethyl Gasoline" grade.	In view of the favorable position Ethyl Gasoline holds with respect to quality, this concession appears to be of little importance to refiners.
Minimum octane specification for Ethyl Gasoline was raised to 80 by the A.S.T.M.-D357-39 method (C.F.R. motor method).	Refiners welcomed standardization of the octane specification and method of testing this grade in lieu of having to meet competition based upon optional methods for testing.
Cost of the tetraethyl lead was reduced from 0.25 cent to 0.23 cent per cubic centimeter.	This represents an 8 per cent reduction in the cost of the fluid and will equalize all or a large part of the expected increase in the use of lead.
Minimum tetraethyl lead content was reduced from 0.9 cc. to 0.5 cc. per gallon of gasoline.	Practically all gasoline will be ethylized.

In the transmittal of the new license and sales agreement and the new trademark authorization, E. W. Webb, president of the Ethyl Gasoline Corp., asked refiners to sign and return copies of the new forms at an early date. Under the court decree the corporation has until July 8, 1940, to forward jobbers notification of the cancellation of existing agreements.

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Automotive Engineers Asked To State Future Fuel Needs

(Continued from Page 36)

"Our viewpoint has been and is that the economics (including safety aspects) are so much in favor of more volatility instead of less volatility in aviation fuels that it is unwise to invest more than research efforts on safety fuels. It is a fact that our natural-gas production and our refinery vapors contain several hundred millions of barrels annually of hydrocarbons in the C_2 to C_4 range. Processes for converting these materials into high-octane-number gasolines are, if anything, too abundant. A large number of permutations and combinations of these processes are actually being applied on the plant scale.

"While it is certain that these processes can be extended to convert the light hydrocarbons to the safety-fuel range it is likewise certain that the cost will be higher, the yield will be less, and the quality will probably be inferior."

Motor Lubricants

Motor lubrication was also an important part of the program and discussion and one of the most practical papers presented was that of C. M. Larson, of Sinclair Refining Co., who reported work done on lubricants used in engines operating under severe conditions. Briefly stated, the author outlined the problem and his findings by saying:

"Engine performance, maintenance and life are today a problem of severe-duty engine conditions. Severe conditions, generally, are measured in terms of high power output. Such operations have brought about high piston ring groove and valve guide temperatures, which greatly increase ring and valve-sticking tendencies.

"In the case of some passenger-car engines at high speed and some truck and bus engines overloaded, ring sticking is not a problem but high crankcase-oil temperatures cause excessive oxidation resulting in varnish on piston skirts and overhead-valve mechanism. Time between crankcase drains, alloy-type bearings and blowby contamination all relate to the severity of engine conditions.

"Severe-duty engine conditions have brought forth an intensive study of the oil and fuel problem as affected by high piston ring groove and valve-guide temperatures and high crankcase or oil circulating temperatures. It is the desire to develop better oils so that the performance of high-output engines can be increased to the limits set by the lubricants yet limit the types of oil necessary to a minimum. It is particularly difficult to evaluate the stability of motor oils since the aging condition prevailing in the engine is subject to constant change and differs from one engine to another."

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Correction

In the report of earnings of 32 major companies published on Pages 96-97, June 6, issue an asterisk denoting "deficit or loss" inadvertently appeared opposite the Pure Oil Co. net income of $1.11.

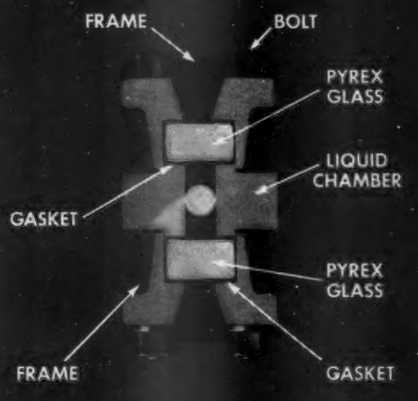
PENBERTHY

DROP FORGED STEEL

TRANSPARENT

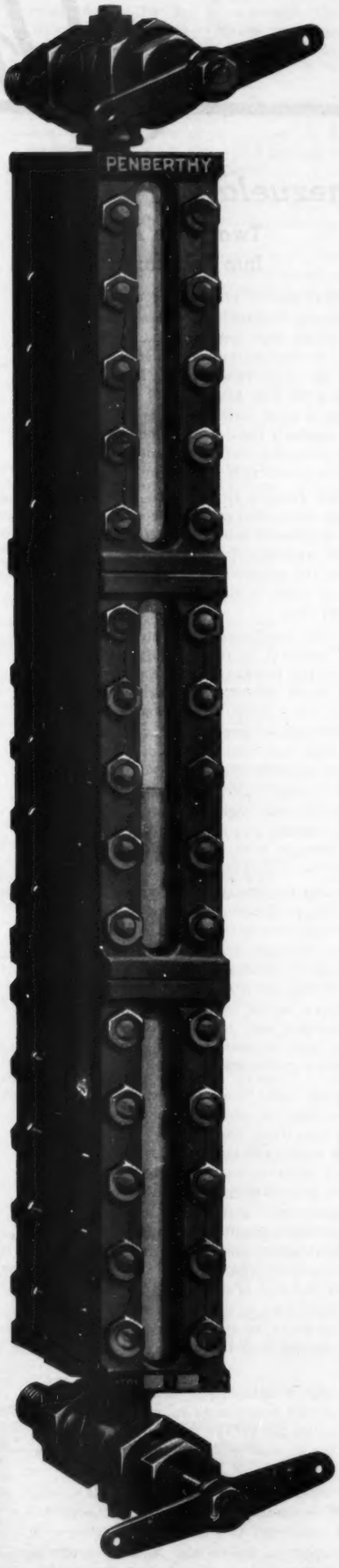
LIQUID LEVEL GAGES

To observe the color or density of liquids under high pressures and/or temperatures



Made of alloy temperature resisting steel. Liquid chamber for single or multiple section gage is made of a solid block of steel the full width of frame to assure perfect alignment and rigidity. Frame has an extra heavy beam at each end and glass chamber is accurately machined to the contour of the glass providing full metal backing for the gaskets. Pyrex glass has greater resistance to thermal shock and erosion.

These gages are available in any length and for various pressures and temperatures. We shall be glad to quote upon your requirements. Write for new Catalog 34-A.



PENBERTHY INJECTOR COMPANY

DETROIT, MICHIGAN

PENBERTHY PRODUCTS

CANADIAN PLANT:
WINDSOR, ONTARIO

International

Venezuela . .

Two Pools Are Brought Into Regular Production

DEVELOPMENT of the San Joaquin field in eastern Venezuela to a basis of daily shipments brings into regular production two new oil pools in that section of the country since the start of the year. Twelve miles of 8-in. pipe line connecting the San Joaquin field with the Oficina trunk-line system terminating at Puerto la Cruz on the northern coast have been completed and the five producing wells in the new field are now on regular production schedule.

The San Joaquin field in the State of Anzoategui was discovered productive during the early part of 1939 but lack of an outlet prevented regular crude withdrawals until recently. Announcement that the connecting 8-in. line had been completed was made at the recent meeting of Creole Petroleum Corp.

The four producers completed in the San Joaquin field up to the end of 1939 registered average initial production of 960 bbl. daily, at an average depth of 6,640 ft. The crude averages about 38° A.P.I. gravity. Three separate horizons have been proved productive and a substantial proved area has been indicated by the drilling operations to date. The 6 miles of 4-in. line linking the two completed producers in El Roble field with the Oficina trunk line were previously reported completed and regular shipments are now moving through that artery to the shipping terminal at Puerto la Cruz.

Creole and its wholly owned subsidiary, Standard Oil Co. of Venezuela, spent $17,200,242 last year in what was described as an extraordinary expansion program. This expenditure was an increase of $6,517,146 over 1938. Of the total expenditure $6,267,819 is attributable to the new Caripito refinery which went on stream October 23, 1939. Pipe-line and terminal construction cost $2,717,890 and general producing-plant expenditures totaled $8,214,533.

"In recent years," says the report, "capital expenditures for the construction of general plant facilities have been consistently large. The company is now in a position to enjoy the fruits of its long-range program, having developed production ranging in gravity from 15° to 50° to meet customers' requirements, constructed crude-transportation and terminal facilities, main camps and roads, a modern refinery, and having available the use of the marketing organizations of affiliated companies for the sale of crude and products. Under normal conditions it may be anticipated that a lesser proportion of the company's future revenue will be required for investment in these facilities."

Creole and Standard of Venezuela operated an average of 12.9 rotary rigs on wholly and partly owned acreage during the year, of which an average of 4.9 rigs was used for drilling exploratory wells.

The Jusepin field has been on regular production since September 1939 when 42 miles of 8-in. line was completed to the Caripito refinery. In the early part of March the Jusepin field's accumulated production passed the 1,000,000-bbl. mark and the 18 to 20 completed producers are now yielding a daily average of more than 6,000 bbl.

New Refinery

Commenting on the new Caripito refinery, the Creole report has this to say: "Construction of the new refinery commenced in January (1939). The first tanker was loaded with products November 15. The plant is almost entirely electrified by the installation of two 4,000-kw. steam-electric power-generating units, which supply all of the refinery's requirements for electricity, in addition to power and light for the Caripito terminal. The output includes high-quality motor gasoline, diesel fuel oil and bunker fuel oil for the domestic market; and, for export, naphtha, gas oil, marine diesel oil and bunker fuel oil.

"Facilities for producing asphalt are being installed to make available, at the lowest possible cost, asphalt for road-building and paving purposes in eastern Venezuela. This is of immediate importance to the economic development of the region.

"Including the company's new Caripito plant the total refinery capacity of all companies in Venezuela is approximately 70,000 bbl. daily, or sufficient for all domestic consumption for a number of years." The average sale price per barrel of crude sold by Creole was $.7993 in 1939 and $.8639 in 1938.

Efforts of the oil companies to improve the economic and social conditions in Venezuela are typified by some of the general remarks in the Creole report, excerpts from which follow:

"The company has started a number of public-works projects, principally the construction of asphalt-surfaced roads to agricultural centers in eastern Venezuela. It is believed that these modern highways, in conjunction with others which are being constructed by the other oil companies in Venezuela, will lead to the development of agricultural areas closer to the cities and oil fields, and should contribute to lowering the price of agricultural products; and, in general, add to the well being of the region.

"To aid farming and provide local agricultural products at lower costs in the areas where we operate, the company has employed an agronomist. The company has the benefit of the experiments which the government experts have been carrying on in this and similar fields. As a contribution to Venezuela's experiments to improve the beef-producing qualities of its cattle and develop a breed better able to withstand the rigors of the tropics, the company distributed 20 head of the 'Santa Gertrudis' breed which has been developed over a period of years by the King ranch in Texas.

"Your company, in conjunction with other oil companies and private Venezuelan capital, is subscribing for stcok in a company to be formed to erect a modern hotel in Caracas. The company staff in Venezuela has been rounded out by the addition of several specialists. The executive, accounting, material, and geological staffs have been moved to Caracas, which is now the general headquarters for the company's operations."

Because the Venezuelan Government and the individual companies are "bending over backward" to avoid dissemination of information that might be considered helpful to the enemy in Europe's war, details of petroleum operations in that country are cautiously guarded. Current production from Venezuela, however, is averaging approximately 576,000 bbl. daily. Immediately after the war started the flood of inquiries for supplies of petroleum caused Venezuelan companies to step up their production to a peak of 640,000 bbl. daily. The inquiries did not result in actual business and retrenchment was necessary before 1939 closed and the situation is relatively unchanged at the present time.

All of the Scandinavian and part of the western European markets for Venezuelan petroleum have been eliminated by developments of the war during the past few weeks. The South American market, however, has expanded and larger volumes are currently moving to England and France to absorb most of the losses from the invaded countries.

Assets . .

Oil Company Reports Do Not Reflect War

ANY hopes that the annual reports of the international oil companies would provide some accurate reflection of the central and western European conditions during the first 3 months of the war appear to be thoroughly dissipated.

Because of the war, Standard Oil Co. (New Jersey), in an amendment to its registration statement filed with the Securities and Exchange Commission, reveals that income accounts of many subsidiaries in Europe for 1939 are not available and, hence, are not reflected in the 1939 consolidated account. In a footnote to the amendment, the company states:

"However, the net assets are included in the 1939 consolidated balance sheet in one sum representing the net assets of these companies as included in our 1938 consolidation, with certain adjustments.

"A majority of such subsidiaries are 100 per cent owned and are in England, Irish Free State, Germany (including Austria and Czechoslovakia), Finland, and Danzig."

Among them are Anglo-American Oil Co., Ltd., and six subsidiaries; Baltisch-Amerikanische Petroleum-Import Gesellschaft mit Beschrankter Haftung; Deutsch-Amerikanische Petroleum Gesellschaft and four subsidiaries; two subsidiaries of Pan Foreign Corp. in Germany; Standard vyrobky Mineralnich Oeju A.S. (Czechoslovakia), Compagnie Algerienne des Petroles Standard and one subsidiary; and Osakeyhtio Nobel-Standard Aktiebolaget and two subsidiaries (Finland).

In an earlier report for 1939 issued by Socony-Vacuum Oil Co., Inc., J. A. Brown, president, said that European subsidiaries had been lumped under a separate heading and that conditions were so uncertain as to make an accurate appraisal of the future impossible.

The dual purpose behind virtual ignorance of European affairs by the international oil companies is:

Details are lacking on many of the operations presenting the necessity of including none for fear of giving erroneous impressions.

The necessity of refraining from releasing any information helpful to either side in the conflict for fear of being accused by the other country of an unfriendly act. Most of the international companies do business in the territories of both belligerents.

Increase in Domestic Demand Far Exceeds Export Decline

CRUDE-OIL production in April receded slightly from the record level of March, according to the Bureau of Mines. The daily average in April was 3,868,200 bbls., or 5,200 bbl. below the average in March but 351,200 bbl. above the average of April 1939.

Although daily average crude runs to stills picked up somewhat and crude-oil production fell off slightly, imports were higher and the rate of accumulation of crude-oil stocks showed little change. Nearly 7,000,000 bbl. were added to refinable stocks in April, bringing the total to 258,066,000 bbl. on April 30.

Evidence that refiners are trying to maintain a better balance between gasoline and heating-oil yields was again indicated in April. The gasoline yield rose 0.8 per cent but at 43.0 per cent was 1.8 per cent below a year ago. Furthermore, the distillate yield declined only 0.5 per cent to 14.3 per cent, whereas last April it was 13.4 per cent.

The domestic demand for motor fuel in April reached expectations but exports continued far below estimates. The domestic demand in April was 47,683,000 bbl., or 8 per cent above a year ago; exports were 2,075,000 bbl., or 43 per cent below those of last April. Not much of a dent was made in the top-heavy gasoline inventories in April, usually the first month of the seasonal withdrawal. As a matter of fact, finished gasoline stocks increased in April; stocks of unfinished gasoline declined, but this was outweighed by a gain in natural-gasoline stocks. Finished gasoline stocks of 96,615,000 bbl. (including 3,872,000 bbl. of aviation gasoline) for April 30 were about 15,000,000 bbl. higher than a year ago.

The demand for fuel oils fell off materially on the approach of warmer weather; furthermore, the increases over April 1939 of 11 per cent for kerosene, 12 per cent for distillate fuel, and 8 per cent for residual fuel were comparatively modest.

According to the Bureau of Labor Statistics, the price index for petroleum products in April 1940 was 50.4, compared with 50.4 in March 1940, and 51.9 in April 1939.

The crude-oil capacity represented by the data in this report was 4,367,000 bbl., hence the operating ratio was 82 per cent, compared with 81 per cent in March and 80 per cent in April 1939.

United States Supply and Demand

Four months, 1940 and 1939

Crude Oil (Bbl.)

4 MONTHS—	TOTAL SUPPLY	TOTAL DEMAND	EXCESS DEMAND	EXCESS PCT.	DOMESTIC PRODUCTION	IMPORTS	INDICATED DOMESTIC DEMAND‡	EXPORTS	STOCKS REFINABLE CRUDE APR. 30
1940	468,285,000	446,943,000	*19,342,000	*4.3	457,928,000	10,357,000	431,106,000	15,837,000	‖258,066,000
Daily average	3,870,000	3,710,000			3,785,000	86,000	3,563,000	131,000	
1939	416,271,000	412,535,000	*3,736,000	*0.9	408,243,000	8,028,000	392,060,000	20,475,000	278,565,000
Daily average	3,469,000	3,438,000			3,402,000	67,000	3,267,000	171,000	
Increase, 1940	52,014,000	36,438,000			49,685,000	2,329,000	39,046,000	†4,638,000	†20,499,000
	12.5%	8.3%			12.2%	29.0%	9.9%	†22.6%	†7.3%

Refinery Products Motor Fuel (Bbl.)

4 MONTHS—	TOTAL SUPPLY	TOTAL DEMAND	EXCESS DEMAND	EXCESS PCT.	DOMESTIC PRODUCTION	IMPORTS	DOMESTIC DEMAND	EXPORTS	STOCKS APR. 30
1940	199,739,000	178,734,000	*21,005,000	*11.8	199,694,000	45,000	170,217,000	8,517,000	102,727,000
Daily average	1,651,000	1,477,000			1,650,000		1,407,000	70,000	
1939	189,733,000	173,405,000	*16,328,000	*9.4	189,733,000		158,859,000	14,546,000	87,107,000
Daily average	1,581,000	1,445,000			1,581,000		1,324,000	121,000	
Increase, 1940	10,006,000	5,329,000			9,961,000		11,358,000	†6,029,000	15,620,000
	5.3%	3.1%			5.2%		7.2%	†41.5%	17.9%

Kerosene

1940	24,147,000	27,372,000	3,225,000	11.8	24,147,000		25,799,000	1,573,000	4,351,000
1939	22,589,000	24,725,000	2,136,000	8.6	22,589,000		22,124,000	2,601,000	5,663,000
Increase, 1940	1,558,000	2,647,000			1,558,000		3,675,000	†1,028,000	†1,312,000
	6.9%	10.7%			6.9%		16.6%	†39.5%	†23.1%

Gas Oil and Residual Fuel Oil¶

1940	181,630,000	197,231,000	15,601,000	7.9	169,420,000	12,210,000	185,792,000	11,439,000	114,024,000
1939	155,603,000	178,363,000	22,760,000	12.7	150,838,000	4,765,000	163,449,000	14,914,000	120,542,000
Increase, 1940	26,027,000	18,868,000			18,582,000	7,445,000	22,343,000	†3,475,000	†6,518,000
	16.7%	10.5%			12.3%	156.2%	13.6%	†23.3%	†5.4%

Gas Oil and Distillate Fuels

1940	65,642,000	76,488,000	10,846,000	14.2	64,416,000	1,226,000	69,421,000	7,067,000	25,092,000
1939	53,842,000	65,584,000	11,742,000	17.9	53,671,000	171,000	56,509,000	9,075,000	26,471,000
Increase, 1940	11,800,000	10,904,000			10,745,000	1,055,000	12,912,000	†2,008,000	†1,379,000
	22.0%	6.6%			20.0%	617.0%	23.0%	†22.1%	†5.2%

Residual Fuel Oils

1940	115,988,000	120,743,000	4,755,000	3.9	105,004,000	10,984,000	116,371,000	4,372,000	88,932,000
1939	101,761,000	112,779,000	11,018,000	9.8	97,167,000	4,594,000	106,940,000	5,839,000	94,071,000
Increase, 1940	14,227,000	7,964,000			7,837,000	6,390,000	9,431,000	†1,467,000	†5,139,000
	14.0%	7.1%			8.1%	139.0%	8.9%	†25.1%	†5.4%

Lubricating Oils

1940	13,031,000	12,108,000	*923,000	*7.6	13,031,000		7,597,000	4,511,000	8,065,000
1939	10,385,000	10,195,000	*190,000	*1.9	10,385,000		7,019,000	3,176,000	7,586,000
Increase, 1940	2,646,000	1,913,000			2,646,000		578,000	1,335,000	179,000
	25.5%	18.7%			25.5%		8.2%	42.0%	2.2%

Petroleum Wax (Lb.)

1940	216,564,000	195,302,000	*21,262,000	*10.9	187,880,000	28,684,000	101,095,000	94,207,000	96,910,000
1939	156,840,000	166,879,000	10,039,000	6.0	148,400,000	8,440,000	82,900,000	83,979,000	119,301,000
Increase, 1940	59,724,000	28,423,000			39,480,000	20,244,000	18,195,000	10,228,000	†22,391,000
	38.1%	17.0%			26.6%	240.0%	22.0%	12.2%	†18.8%

*Excess supply. †Decrease. ‡Crude only. §Includes finished and unfinished refinery gasoline and natural gasolines. ¶Gas oil and fuel oil equals gas oil and distillate fuels plus residual fuel oils. Note: Total supply equals domestic production plus imports. Total demand equals domestic demand plus exports. Data on demand for refined products based on refinery shipments. ‖Does not include 13,516,000 bbl. of heavy oils in California. Comparable figure for Apr. 30, 1939, 15,198,000 bbl.

Crude Oil Run to Stills and Total All Oils (Bbl.)

4 MONTHS—	TOTAL IMPORTS§	TOTAL EXPORTS§	TOTAL CRUDE TO STILLS	PER CENT YIELD GASOLINE‡	NATURAL GASOLINE PRODUCTION	TOTAL SUPPLY ALL OILS*	TOTAL DEMAND ALL OILS*	STOCKS ALL OILS APR. 30*
1940	25,538,000	43,426,000	425,354,000	42.8	17,353,000	501,787,000	471,124,000	555,433,000
Daily average	211,000	359,000	3,515,000		143,000	4,147,000	3,894,000	
1939	15,576,000	56,396,000	385,631,000	44.8	16,475,000	441,003,000	440,237,000	567,812,000
Daily average	130,000	470,000	3,213,000		136,000	3,675,000	3,669,000	
Increase, 1940	9,962,000	†12,970,000	39,723,000		878,000	60,784,000	30,887,000	†12,379,000
	63.9%	†23.0%	10.3%		5.3%	13.8%	7.0%	†2.2%

*Total all oils include crude and refined products, natural gasoline, and benzol. Stocks Apr. 30, 1940, represented 143 days' supply, which compares to 155 days on the same date in 1939. †Decrease. ‡Does not include natural gasoline blended at refineries. §Includes crude oil and refinery products. In case of imports includes receipts in bond and for domestic use. All data based on Bureau of Mines reports.

PROGRAMS AND MEETINGS

Permian Basin Association Expecting Large Crowd

ODESSA, Tex.—Program arrangements for the second annual convention of the Permian Basin Association, which is to be held in Odessa June 21 and 22, are near completion.

Among the men scheduled to appear on the convention's program are J. S. Bridwell, Wichita Falls oil operator and present president of the West Texas Chamber of Commerce; J. C. Hunter of Abilene, president of the Mid-Continent Oil and Gas Association; D. G. Gray, executive vice president of the North Texas Oil and Gas Association; and J. C. Watson of Abilene, executive secretary of the West Central Oil and Gas Association.

The sale of registration badges for the P.B.A. convention has been opened in Odessa, with a campaign aimed to secure 2,500 registrations in advance of the opening of the convention.

Canadian Gas Association Convention Program

The Canadian Gas Association announces an interesting program of papers and addresses of value and importance to natural and manufactured-gas men for the thirty-third annual convention to be held in Jasper Park Lodge, Alberta, Canada, July 3, 4 and 5.

Among the contributions to this event to be given by prominent and experienced men in the gas industry are:

"Community Development," by F. M. Banks, vice president, Southern California Gas Co., Los Angeles, Calif.

"Is Our Gas Industry Utilizing Its Greatest Asset?" by S. B. Severson, vice president, Dominion Natural Gas Co., Ltd., Buffalo, N. Y.

"Geochemical Prospecting—a New Method of Gas and Oil Exploration," by S. E. Slipper, consulting geologist, Calgary, Alta.

"The Fundamental Soundness and Stability of the Gas Industry," by Maj. T. J. Strickler, vice president and general manager, Kansas City Gas Co., Kansas City, Mo.

"The Preparation of Turner Valley Gas for Market," by H. McM. Stevens-Guille, plant superintendent, Royalite Oil Co., Calgary, Alta.

"The Firing of Natural Gas for Steam Generation," by H. A. Atwater, chief engineer, Combustion Equipment Co., Kansas City, Mo.

"Pipe-Line River Crossings," by LeRoy M. Edwards, president and general manager, Industrial Fuel Supply Co., Los Angeles, Calif.

"The Testing Laboratories Expand for Greater Service," by R. M. Conner, director, testing laboratories, American Gas Association, Cleveland, Ohio.

Gas Industry Offers Facilities To War Department

Walter C. Beckjord, president of the American Gas Association, has written to Louis Johnson, assistant secretary of war, as follows:

"The executive board of the American Gas Association, which represents the natural-gas and manufactured-gas industry of the United States, has authorized us to offer to the various departments of the U. S. Government concerned with national defense the full support and cooperation of the gas industry.

"We shall proceed to develop plans to maintain so far as possible uninterrupted service to industry, our customers and the public in every period of emergency and hostilities and will put such plans into effect at any time it may be desirable and necessary. This will also involve adequate measures for the protection of the manufactured-gas plants and property and the long-distance natural-gas transmission lines as well as the protection of cities and towns by segregation of the gas-supplied areas in case of attack.

"The gas industry has already demonstrated its facilities for assisting in the production of munitions of war, as byproducts in the manufacture of coal gas such as trinitrotoluol, lyddite, benzol, sulfate of ammonia, drugs and antiseptics. Natural gas, in addition to its availability and necessity as a fuel and power in almost every manufacturing process, is a valuable chemical source of war materials.

"The gas industry has also in its ranks men with broad experience gained in the World War or subsequently in various branches of the service in the manufacture of munitions, chemical warfare, the gas and flame service, ordnance and aviation.

"We desire to be of the greatest assistance possible to the Government in every way and will appreciate your advice as to what procedure we may follow to attain this end."

Petroleum Exports in 1939 Analyzed in Detail

Crude oil and petroleum products accounted for one-eighth of all 1939 United States merchandise exports, by value, according to the recent detailed analysis issued by the Bureau of Foreign and Domestic Commerce. Total value of petroleum and products exported in 1939 was $386,535,668. This equaled 12.4 per cent of the value of all United States merchandise exports, $3,122,689,000.

Value of petroleum exports in 1939 declined slightly from 1938. The 1938 total was $391,746,477, indicating a decrease of 1.3 per cent. Crude oil, gasoline, and residual fuel oil accounted for all of the 1939 decreases. Exports of all other petroleum products equaled or exceeded the 1938 values. The largest increase was in lubricating oils, the value amounting to $90,574,591 last year compared with $68,939,383 in 1938.

The volume of 1939 exports, according to an analysis by the Bureau of Mines, totaled 188,982,000 bbl., compared with exports of 193,728,000 bbl. in 1938. Crude-oil shipments, which amounted to 77,253,900 bbl. in 1938, dropped 5,190,000 bbl. last year. Motor-fuel exports also declined substantially from 47,957,609 bbl. in 1938 to 42,353,373 bbl. in 1939. Shipments of aviation gasoline, reported separately for the first time in 1939, totaled 4,000,801 bbl.

The report, available without charge from the Bureau of Foreign and Domestic Commerce, gives 1938 and 1939 data for 56 foreign countries, in 28 classifications and subclassifications of petroleum products.

CALENDAR OF EVENTS

June

SOUTHWEST PETROLEUM CREDIT GROUP, San Antonio, Tex., June 17-20.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Milwaukee, Wis., June 17-20.

PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION, seventeenth annual meeting, Hotel Emery, Bradford, Pa., June 20-21.

KENTUCKY OIL AND GAS ASSOCIATION, midsummer meeting, Lexington, Ky., June 21-22.

PERMIAN BASIN ASSOCIATION, semiannual meeting, Odessa, Tex., June 21-22.

AMERICAN SOCIETY FOR TESTING MATERIALS, Chalfonte-Haddon Hall, Atlantic City, N. J., June 24-28.

ILLINOIS BASIN CHAPTER OF AMERICAN PETROLEUM INSTITUTE, McCurdy Hotel, Evansville, Ind., June 29.

September

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Spokane, Wash., September 3-5.

AMERICAN CHEMICAL SOCIETY, Detroit, Mich., September 9-13.

NATIONAL PETROLEUM ASSOCIATION, thirty-eighth annual meeting, Hotel Traymore, Atlantic City, N. J., September 18-20.

NATIONAL LUBRICATING GREASE INSTITUTE, annual convention, Stevens Hotel, Chicago, September 30-October 1.

October

NORTH AMERICAN GASOLINE TAX CONFERENCE, Whitley Hotel, Montgomery, Ala., October 3-5.

AMERICAN GAS ASSOCIATION, Atlantic City, N. J., October 7-10.

NATIONAL SAFETY CONGRESS, Stevens Hotel, Chicago, October 7-11.

AUTOMOBILE MANUFACTURERS ASSOCIATION, Auto Show, New York, October 12.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, eleventh annual meeting, Dallas, Tex., October 16-18.

TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION, annual convention, celebrating Texas oil's forty-fifth birthday, Fort Worth, Tex., October 31-November 2.

November

AMERICAN PETROLEUM INSTITUTE, twenty-first annual meeting, Stevens Hotel, Chicago, November 11-15.

December

EXPOSITION OF CHEMICAL INDUSTRIES, Grand Central Palace, New York, December 1-6.

1941

March

AMERICAN SOCIETY FOR TESTING MATERIALS, Hotel Mayflower, Washington, D. C., March 3-7.

April

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Hotel Cleveland, Cleveland, Ohio, April 24-25.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Hotel Cleveland, Cleveland, Ohio, April 24-25.

June

AMERICAN SOCIETY FOR TESTING MATERIALS, forty-fourth annual meeting, Palmer House, Chicago, June 23-27.

Only a few years ago pumping wells had to be regulated purely on the strength of guesses made in regard to subsurface conditions. Now the dynamometer and the sonic fluid-level tester are widely used to replace the assumptions made from surface indications. The fluid-level tester makes accurate drawdown potential tests possible, thereby obviating production tests

ENGINEERING & OPERATION

JUNE 13, 1940

This Section

Maintenance of Multicylinder Engines in Sour Gas Areas

By D. H. STORMONT

IN the sour-gas areas of West Texas and New Mexico operators are devoting increasing attention to the operation and maintenance of multicylinder gas engines used for pumping oil wells. These efforts are directed primarily toward determining operating conditions at which the least engine trouble is encountered and, to a limited extent, use of engine parts more resistant to the effects of the corrosive gas. As a general rule the practice of attempting to remove the hydrogen sulfide by washing the gas through an alkaline solution has been abandoned due to the additional expense and trouble of keeping the solution unsaturated.

As there is a wide variance in the sulfur content of gas produced by Permian basin fields, as well as a variance from producer to producer within a field, operating conditions are more severe at one location than at another. For the area as a whole the sulfur content of the gas averages about 800 to 1,000 grains per 100 cu. ft. In some fields the content ranges as high as 6,000 grains, or higher, while in others the content is as low as 7 grains per 100 cu. ft. In the latter fields operation of multicylinder engines is, of course, no more difficult than in sweet-gas areas, but where the content is high, operating conditions must be varied slightly to keep maintenance costs low.

Records kept by some companies show their average operating and maintenance costs for multicylinder engines on wells in the Permian basin only slightly exceed those of other areas. The majority of companies, though, have experienced higher costs, in some instances averaging almost double those in other areas, especially so where their properties are almost entirely confined to extremely sour fields. Thus the overall average is somewhat higher due to more rapid deterioration of some engine parts and, usually, more frequent overhauls.

Caustic Treating of Gas

When multicylinder engines for oil-well pumping were first employed in the area, operators generally encountered extensive engine troubles where the gas was extremely sour. In an effort to overcome this problem many operators started treating the gas with caustic soda solution, or other materials, to remove the hydrogen sulfide. This method proved quite satisfactory where care was exercised to see that the solution was not allowed to become saturated, and an adequate volume tank was used for drying the gas after it had passed through the caustic solution. The type of treating system used, however, usually was not sufficiently flexible to meet the varying loads encountered; the caustic containers and volume tanks were too small, or the solution not renewed frequently enough, so that only an ineffective treatment was given the gas.

With declining per-well allowables operators have abandoned use of this treatment, as a general rule, due to its high cost. Effective treatment of the gas on such a small scale costs on an average about 6 to 8 cents per 1,000 cu. ft., and in many instances exceeds 12 cents per 1,000 cu. ft. The average multicylinder pumping engine used in this area requires about 300 cu. ft. per hour, thus operating costs are increased from 2 to 4 cents per hour if the gas is treated. The method, though, is being used by some operators on a small scale, mainly where the gas has a high H_2S content. One company, whose experience with the caustic method of treating has been very favorable, requires its pumpers to carry solutions of lead acetate in small bottles for testing the caustic to determine when it is saturated.

Operating Temperatures

Most important factor to be considered in the extremely sour gas fields, in the opinion of most companies, is the maintenance of high operating temperatures. Other factors of prime importance are (1) maintenance of a low intake pressure at the carburetor, (2) provision to insure that the gas enters the carburetor free of dirt and moisture, (3) proper care of the ignition system, (4) periodic inspection to locate irregularities before they become serious, (5) qualifications of personnel servicing the engines and proper performance of their duties. Also, some operators have experienced better engine performance when asphalt-base oils, turbine oil, industrial oils containing special solvents or top valve lubricants were used.

Most of the engine troubles encountered when using sour gas are a result of moisture, either that of combustion or the gas being inefficiently scrubbed. This moisture enters the crankcase and causes the lubricating oil to sludge, or combines with the H_2S to form sulfurous acid which causes pitting of the cylinder walls, valves, and other parts, or also causes the oil to emulsify. The amount of sludging can be kept at a minimum by reducing the amount of blowby past the piston rings and by ventilating the crankcase. In many instances, however, sludging is remedied simply by raising the radiator temperature. As the crank-

Gas engines compounded for driving a power pump at a rotary rig in the Wasson field

Slow-speed pumping installation in the Vacuum field of New Mexico

case temperature closely follows radiator-temperature changes, the higher temperature of the oil in the crankcase tends to keep the vapors from condensing rapidly. Majority of operators have found that more satisfactory engine operation is had if radiator temperatures of 180° to 200° F. are maintained.

In order to insure high operating temperatures, without any danger of overheating, some operators are experimenting with vapor-phase cooling systems. On these units an oversize radiator is used, which in reality acts as a condenser, and the temperature of the water jacket held at the boiling point so that the water leaves the engine in the vapor state and is condensed in the radiator. Generally, though, the higher temperatures are secured by use of manually controlled curtains and shutters over the radiator core, thermostatically operated shutters and by using closed cooling systems.

Chief fault with the higher operating temperatures is that there is a greater loss of cooling water, which in turn requires the engine must be more closely watched. Also, there is a tendency for excessive oil consumption due to the oil being carried into the crankcase in a vapor spray. Danger of overheating the engine, however, is practically eliminated through use of oil-pressure and water-temperature safety devices that shut down the engine if the temperature becomes too high or the oil pressure too low.

Setting Cutout

In order that a high operating temperature may be had without the engines being occasionally shut down by the temperature cutout performing its duty, some companies have adopted the practice of setting the cutout at a time of day when atmospheric temperatures are the highest. The setting of the engine-temperature device, of course, must be changed periodically, but since the operating temperature of the engine does not vary in the same degree as the atmospheric, several weeks may elapse before a change is necessitated.

The amount of heat that can be handled by the cooling system of an engine is definitely limited by the area of the combustion chamber, its ability to transmit heat and its general construction. In this area a mean effective pressure of 65 lb., with piston speeds of 800 to 900 ft. per minute, is generally accepted as the proper safe load at which to operate oil-well pumping engines in constant service. If operated at a much higher mean effective pressure, unless an exceptionally large radiator is used, troubles from sticking valves and valve failures have been found to increase greatly.

Some operators have adopted a wide usage of asphalt-base oils, industrial oils or other solvent-containing lubricants to reduce sludging and its attendant troubles. Others feel that such oils are not usually necessary, for if the engine is operated at a sufficiently high temperature and moisture removed from the fuel gas the amount of condensation taking place in the crankcase is kept at a minimum. The amount of water carried in the gases of combustion that blow by the piston rings, of course, increases as cylinder wear increases and piston-ring efficiency declines. Where these conditions are encountered, use of special lubricants may permit the engine to be operated until it can be overhauled.

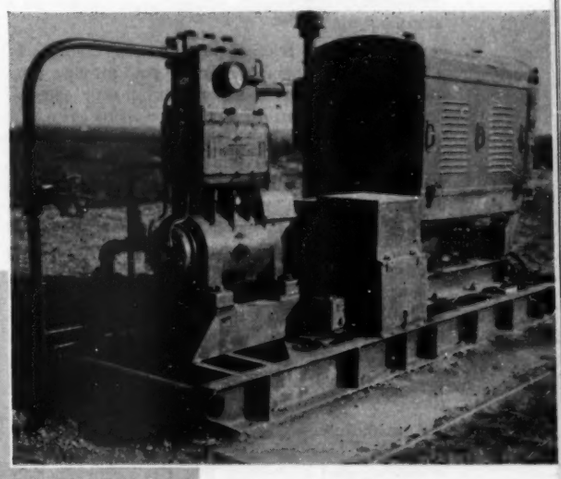
Gas Scrubbers

The sour gas often has been credited with causing excessive carbon deposits, but in the opinion of some engine-maintenance men the heavy deposits are mainly the result of the gas being ineffectively cleaned. Most units are equipped with either one or two volume tanks for scrubbing and drying the gas. However, these are not always effective due to their being of insufficient size, too great a pressure being carried on the inlet side, or the piping being incorrectly placed. Engine companies represented in the area place a great emphasis on the construction and proper use of the volume tanks, as much engine trouble can be eliminated if a clean supply of dry gas is supplied the engine at a constant pressure.

The usual efficient gas-scrubbing system consists of one or two large tanks, approximately 12 in. in diameter and 4 ft. in height, with a regulator placed on the inlet side to maintain a constant pressure on the scrubber. The intake pressure should be held as low as the scrubber will permit, it is generally conceded. Some operators place an oil bath in the first of two tanks for scrubbing the oil, using the second as a volume tank and for removing any moisture in the gas. Many of the systems contain baffles. One operator has standardized on use of a large vessel in which the gas passes through an oil bath in the lower section, runs through an external pressure regulator and returns to the top section which acts as a volume tank.

A pressure regulator, or reducing valve, should be placed between the scrubber and the engine so that gas is fed to the carburetor at constant pressure. Experience has shown that fewer starting and operating troubles are encountered if the gas is fed to the carburetor, after passing through a filter, at pressures not exceeding 4 to 6 oz.

Another trouble resulting from the sour gas is frequent replacement of spark plugs due to fouling, and corrosion by the sulfurous acid when the engine cools. At some units it has been necessary to replace spark plugs three or four times a month, although the average service is of course much longer. While the cost of spark plugs is not too high, the labor costs and down time in conjunction with the replacement adds greatly to the maintenance costs. Also, if the spark plugs are not cleaned regularly and the points properly adjusted, loss of power and early failure of magneto parts soon results. Use of a "cold" spark has proven successful usually, although several spark-plug manufacturers are supplying several companies with new-type plugs on an experimental basis.



Above: Multicylinder engine connected to a hydraulic pumping unit in the Harper field of Ector County

Right: Newly installed pumping unit in the Foster field. Below: At this installation in the Foster field, like at many other wells, an adjustable curtain is placed over the radiator front to maintain a high engine temperature

It is without question that performance of a multicylinder gas engine in pumping service will be greatly improved if the engine is properly operated and serviced. Improper performance can be traced to inefficiency or oversight on the part of the personnel maintaining the equipment in about 50 per cent of the cases.

Most of the large companies operating in the Permian basin employ their own service men to periodically check the engines in that territory and see that they are being properly operated. Small companies, and a few of the majors, are contracting with the engine companies to have a service man look after their engines. In some instances the engine distributors are contracting for complete maintenance over long periods of time.

Improved Conduit Bends Reduce Frictional Loss

By CARL H. NORDELL
Consulting Hydraulic Engineer,
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Second half of discussion covering friction losses which occur in curved pipes of various types. The findings are especially applicable to oil-refining problems. The first half of the discussion appeared May 16, Page 117.

IN a preceding article there was established a formula for computing the resistance to curved flow in bends of constant cross-section. A portion of the resistance was found to be independent of both the angle of the bend and the roughness of the wall, but dependent upon the sharpness of the curvature. This has been aptly termed by Beij[1] a "deflection coefficient." The magnitude of the term of this formula sinks into insignificant proportions after R/D is about 2, and the frictional resistance constitutes practically the total resistance.

This frictional loss is always greater than that of an equal axial length of straight pipe of identical wall texture. As the curvature is moderated the resistance per unit of arc length falls and presumably approaches straight-pipe friction as a limit.

The increased friction per unit of arc length in curved flow as compared with straight-pipe flow probably arises as a net result of four factors. First, the flow pattern is that for more turbulent flow than exists in straight pipe. Second, the forward component of flow on the inside of the curve is faster than that on the outside thus raising the average $V^2/2g$. Third, the path followed by the boundary layer is longer than the axial length of the bend because it does not flow directly along the bend but has a circumferential twist. Fourth, the true velocity of the boundary layers is higher than normal on account of the increased length of their path. All these factors, however, are dependent upon a single variable, namely the centrifugal forces set up by the curvature.

A most interesting study of these centrifugal forces has been made by Lansford[2] in his tests of elbows used as meters. Fig. 1 is a reproduction

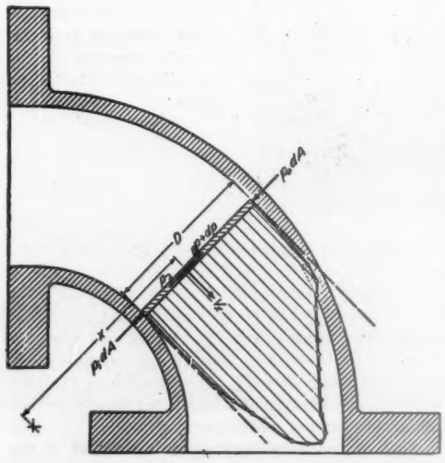


Fig 1—Section of elbow showing velocity distribution

of his pitot-tube velocity traverse of a 4-in. C.I. elbow with $R/D = 1.5$. It will be noted that the forward velocity toward the outside of the bend is less than half the velocity at the inside. The pressures are naturally the reverse of the velocities, high on the outside of the curve and low on the inside and from his tests the differential pressure across the elbow is $1.5(V^2/2g)$ for a curvature of $R/D = 1.5$. The traverse does not show those components of the flow which are not concentric with the axis of the bend, that is to say the secondary currents.

Fig. 2 shows a similar traverse of a 6-in. smooth

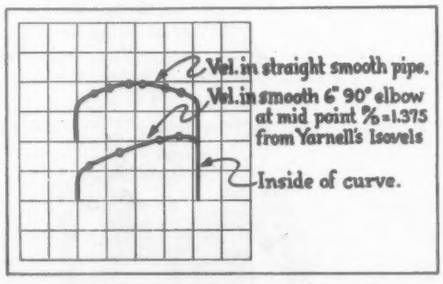


Fig. 2—Traverse of a 6-in. smooth elbow

elbow and the velocity distribution for the same wall texture in straight pipe according to Yarnell.[3] Yarnell's pressure difference between the outside and the inside of the bend was found to be $1.71(V^2/2g)$ for $R/D = 1.37$.

It is the pressure difference between the outside and the inside walls that causes the peculiar twisting double spiral flow of the outside layers of fluid—the so-called secondary currents. Those layers of fluid which are nearest to the wall are forced from the outside to the inside of the bend. This is the same phenomenon as is illustrated countless times to those who use sugar in tea. Stirring the fluid forces the undissolved particles of sugar into a heap at the center of the cup instead of throwing them outwardly as in centrifuging.

The reason is, of course, that the whirling fluid sets up currents that drag the particles to the center. In Fig. 3 is shown diagramatically a stationary cylindrical vessel containing a rotating liquid. The surface of the liquid will stand higher at the periphery than at the center owing to the centrifugal pressures developed by the rotation. The layers of fluid near the bottom of the vessel are retarded by friction and hence their rotation does not develop centrifugal forces capable of meeting the static heads set up by the rotation of the swifter layers. These bottom layers are

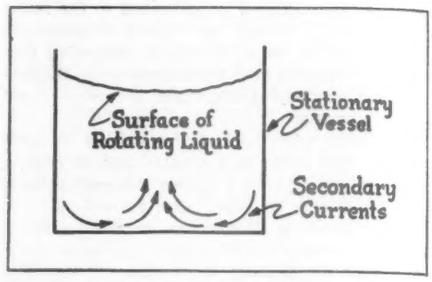


Fig. 3—Liquid level within a stationary cylinder in which the liquid is made to rotate horizontally

therefore forced in toward the center and as they are constantly replaced from the upper layers a secondary current is thus set up capable of dragging the particles of sugar with it.

The secondary flows in bends arise from exactly the same cause. The pressure developed at the outside of the bend by the faster moving central core displaces the slower moving boundary layers toward the inside of the bend, and this displacement will occur in both circular cross-section bends and rectangular cross-section bends. The change in direction of flow of the boundary layers when the bend is encountered by the moving fluid is surprisingly prompt and the crossover angle is astonishingly abrupt especially when the curvature is sharp.

These currents have been clearly traced and illustrated in a wide variety of bends by Eustace[4] and are reproduced in Fig. 4. His experiments

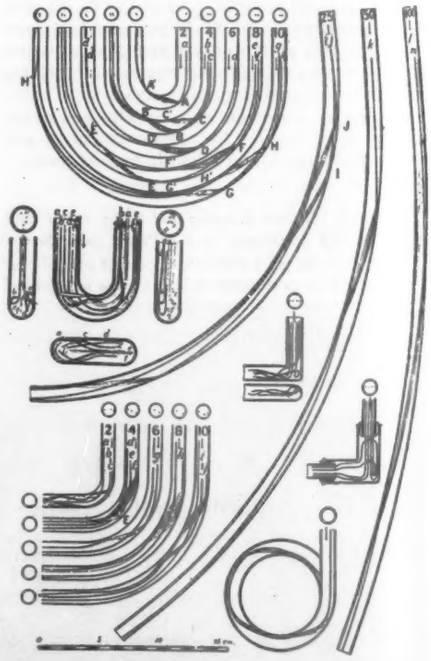


Fig. 4—Flow lines through pipe of various shapes according to Eustace[4]

were performed with glass tubes and velocities below the critical in straight pipe. His conclusion, however, was that flow in bends was not viscous and therefore his sketches, which are a most complete showing of secondary currents in a wide variety of curvatures and lengths of arc, are undoubtedly illustrative of bend conditions at higher velocities. It will be noted that the secondary currents show the characteristic crossover no matter what the curvature ratio of the bend or the length of the arc. The pattern is much the same in all cases except that the angle of crossover seems more abrupt in the sharp curvatures. The flow pattern for the miter bend presents an entirely different characteristic but otherwise even the bends of very long radius show the same pattern of secondary currents. This might indicate that the author's expression for the frictional resistance is correct in form,

since $\left(\frac{1 + R/D}{R/D}\right)^2$ indicates no radical change in flow pattern but a merely diminishing intensity of the secondary currents, as the curvature moderates.

Fig. 5 shows the secondary flow in curved chan-

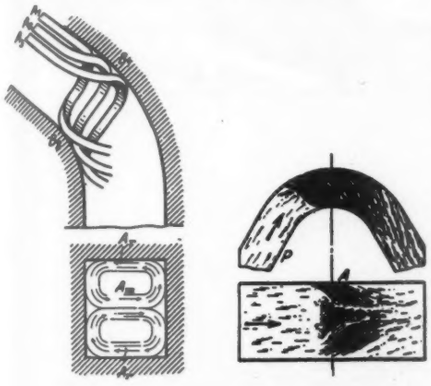


Fig. 5—Flow line according to Loliger[4]

nels of rectangular cross-section, and the flow paths of steam in curved channels according to Loliger[5] who obtained flow tracings of the flow path by coating the inside of his bends with a dark varnish which was eroded off by the secondary currents.

This marked erosional effect of the secondary currents was also noted by Eustace who says, "A quantity of dye having been spread over the whole of the surface of the tube, even at extremely low velocities, the color disappeared immediately from the outer wall of the bend, more slowly from the inner wall and very slowly indeed from the straight part of the tube." Erosional effects are apparently due almost entirely to the secondary currents, and their persistence beyond the bend is responsible for the well-known fact that erosion in straight conduits following a bend is much greater than in those where the straight flow is undisturbed.

As has been seen the major portion of the resistance to curved flow at moderate curvatures is probably due to the frictional effects of the secondary currents. But while they may increase the frictional effects they probably help to overcome discontinuity of flow on the inner side of the exit portion of the bend and the lead-out tangent, and in this way actually cut down some eddy losses. This discontinuity in curved closed conduits has a parallel in rivers, where frequently the flow is reversed on the inside of the downstream channel following a curve—the "back water." In closed conduits the corresponding effect probably seldom or never produces any reverse currents. What happens is that the velocity is very much reduced but not ordinarily rendered minus. In the author's experiments where free discharge of the 18 dia long exit conduit occurred, the effect of this partial back water could be plainly seen. Now the result of the secondary currents is probably to fill to some extent this deficiency of flow and insofar as they do this the secondary currents are helpful. Loliger's tracings of flow patterns in Fig. 5 show this filling of the back-water regions very clearly.

Roughness in any event would increase the discontinuity or back water at the exit side of the bend but by also retarding the secondary currents the effect is magnified. The traverse shown in Fig. 1 shows clearly the influence of the back water on the velocities on the inside of the bend, while that in Fig. 2 shows but little of this effect. The first is for a cast iron, that is to say a rough bend while the second is for a smooth bend. Apparently roughness retards the filling, so to speak, of the back water.

Further light is perhaps shed on this point by Yarnell's pressure difference between the inside and outside of rough and smooth bends. Both the smooth and the rough bends of the same curvatures have a pressure difference across the bend equal to $1.71(V^2/2g)$ when the water has swung 22½° around the curve. This differential remains the same for the smooth bend at 45° while for the rough at 38½°, the differential has mounted to $2.2(V^2/2g)$ indicating, perhaps, that the secondary currents in the rough bend have not succeeded in filling the pressure "valley" on the inside as well as they have in the smooth bend.

Possibly the accentuated separation or back water formed in a bend by roughness with its consequent increase of differential pressure leads to a higher velocity of secondary flow and hence greater total bend losses. If so this increased velocity of secondary flow might well make erosion a cumulative process as a slight roughness would step up velocities and induce still more erosion. However, this is still somewhat in the realm of speculation for the present, though it would seem likely that reduced intensity in the secondary currents would do much to reduce erosion in the bends.

If roughness hinders the secondary currents and thus increases resistance it would seem possible that the resistance might be lowered if the secondary current was eased by enlarging the cross-section of the bend. The effect of such an enlargement aside from its effects on the secondary currents would hardly be beneficial as the reduction in loss due to lowered velocity would be offset by expansion and contraction losses and an increase in the bend coefficient due to a relatively sharper curvature. In the curvature range of most pipe fittings the losses would offset or probably exceed any possible gains. If, however, an enlargement affects principally the secondary currents by giving them more room it might prove advantageous.

In commercial-threaded fittings the bend is usually of larger diameter than the tangent pipes. The enlargement is of course concentric with the pipe and the object of enlargement is clearance for the tap which cuts the threads. Such an enlargement which begins and ends abruptly, increases bend resistance if the bend is smooth or only moderately rough. This type of fitting has been generally considered hydraulically inferior to flanged or welded fittings whose diameters are the same as the tangent pipes. This popular belief appears to be in the main justified by tests made with controlled roughness. If the bend is smooth or only moderately rough such an enlargement increases bend resistance in all degrees of sharpness of curvature. This type of enlargement may be called the concentric type as distinguished from the vertical and eccentric enlargements in Fig. 6.

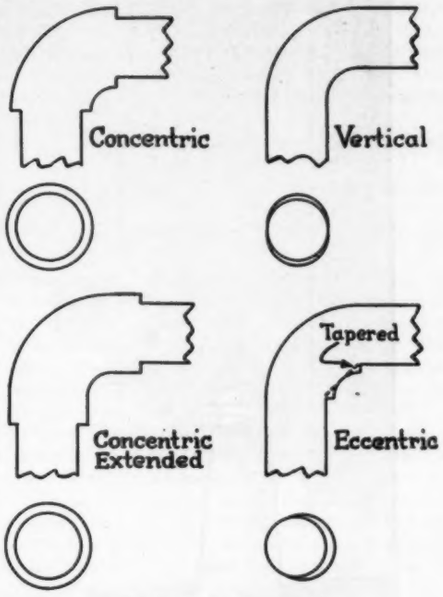


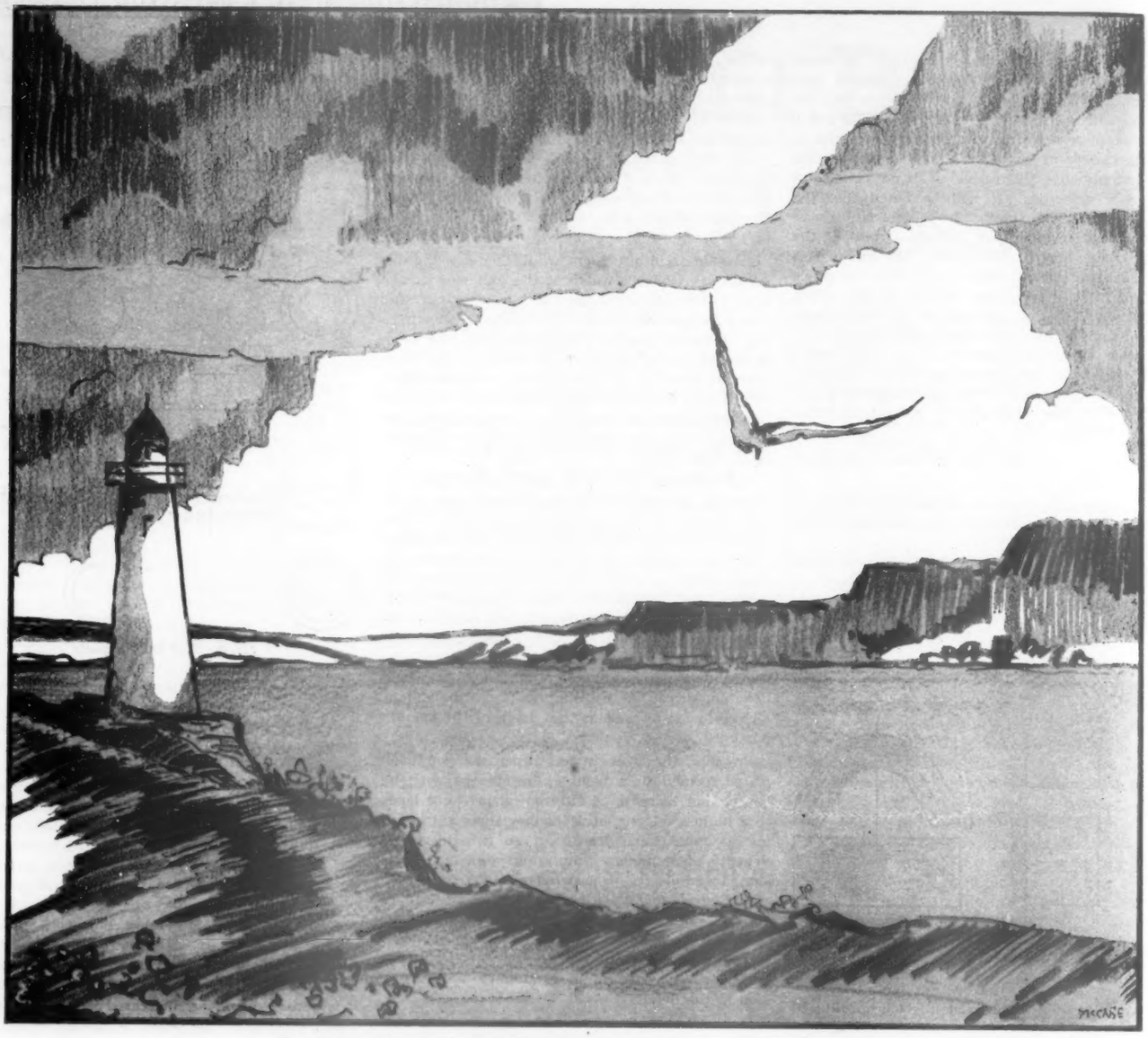
Fig. 6—Bend enlargements

There is no hydraulic usefulness to a simple concentric enlargement but the practical advantage in manufacturing threaded fitting is sufficient to offset its hydraulic shortcomings. The practical advantage may be retained, and hydraulic efficiency gained, however, if the enlargement is extended a short way into the tangents as is shown in the "concentric extended" sketch in Fig. 6. The extension need only be prolonged one-fourth diameter into the tangent to obtain a marked reduction in both "smooth" and "rough" resistance.

The concentric enlargement, however, is not as useful hydraulically as either the vertical or eccentric enlargements. These types may be also extended into the tangents but generally speaking it is better to use this increased length in enlarging the radius of the bend. There is one notable exception to this rule, however, and that is in the case of return bends. Here the radius of the bend is fixed by the required center-to-center spacing of the piping. Extension into the tangent does not affect the spacing but does lower resistance and is therefore extremely advantageous. Tapering of the extension will still further increase the advantage. Such tapered extensions may prove useful in hydraulic work where large conduits and limited space for the turn preclude the use of good ratios of R/D. Another instance where extended enlargements may prove useful is in air ducts where the turns are frequently very sharp.

The writer's experiments show that benefits are derived from enlargement regardless of the shape of the cross-section of the bend. Square or rectangular conduits enlarged at the turns in the same manner as circular conduits will show practically the same reduction in resistance. Also square or rectangular turns appear to have nearly the same total resistance coefficients as circular conduit turns of the same R/D ratio, at least in the sharper turns which are all that have so far been tested. The tapered enlargements lend themselves especially well to sheet-metal work. Tapering the enlargement in bend cross-section to blend with tangent cross-sections is always advantageous, but the taper must have a length of somewhere around one-half diameter to show a marked effect.

Generally speaking, the concentric enlargement



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is the least desirable, especially for sharp turns. The tapered vertical enlargement is much better and serves quite well, especially for smooth-surfaced bends. The best enlargements, however, are the tapered eccentric type, which can be brought to a high degree of efficiency by properly shaping the taper.

The writer's method of shaping the taper was a cut-and-try method. The starting model was an eccentric enlargement only slightly tapered at the ends. This shape was cast and tested, then tapered further, retested and so on until the best hydraulic shape was obtained.

One rather interesting effect was noted when an efficient shape was being evolved by this method. The crude enlargement was generally hydraulically better than the conventional bend if the walls in both cases were rough, but if the walls were smooth it was frequently inferior to the correspondingly smooth conventional bend. Apparently it was comparatively easy to lower the resistance of a rough bend by a suitable enlargement but that same enlargement might raise the smooth resistance by a substantial amount. Frequently the effect was so marked that there would be but little difference between the rough and smooth resistance of the crude enlargement. As refinement of the shape proceeded the smooth resistance would fall more rapidly than the rough

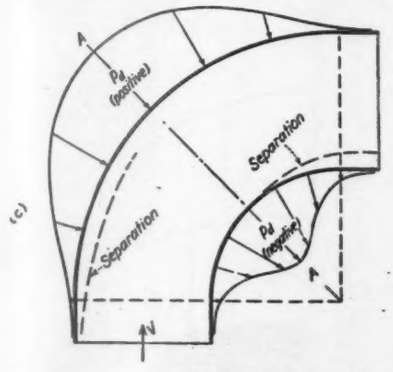

Fig. 7—Relationship of pressure differences which influences the hydraulic efficiencies of bends

resistance until a more normal proportion was restored.

In Fig. 8 there is shown diagramatically a perfected tapered enlargement for a bend of $R/D = 1.5$. The lines "a" are proportional to the enlargement in area of the cross-section. Half of this enlargement is shown to the outside of the bend and half to the inside. Fig. 7 is a diagram reproduced from Rouse's "Fluid Mechanics," which shows the pressure distribution around a bend of approximately the same R/D. The similarity is striking and may indicate that the best-shaped enlargement is one proportional to the pressure differences set up between the inside and outside surfaces of a conventional bend. At any rate, the presumption is strong that the better hydraulic efficiency of the writer's improved bends is due to the easing of the secondary currents as these are, of course, proportional to the pressure differences shown in Fig. 7.

The savings in resistance obtained through the use of these improved bends are substantial. They are somewhat greater for bends with commercially rough surfaces than for very smooth surfaces, averaging about 40 per cent in the first case and about 35 per cent in the latter case for most curvatures. In a limited range of curvatures extending approximately from $R/D = 1.5$ to $R/D = 2$, the saving in smooth bends is somewhat less, ranging downward to a low of 20 per cent. The percentage saving for U-bends does not differ materially from those obtained in 90° bends and hence it may be safely estimated that the percentage saving of improved bends of other angles will closely approximate these same figures.

It has been found, generally, that a somewhat greater enlargement is required for a rough bend than for a smooth bend for best results. Perhaps each roughness of surface has its optimum enlargement but the difference between this optimum and that obtained by an enlargement adjusted to a large range of roughness is not very considerable.

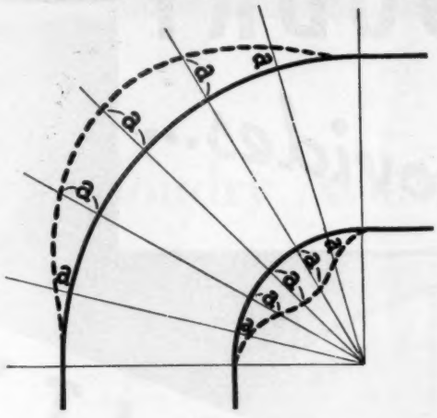

Fig. 8

Fig. 9 shows a 4-in. cast-socket weld fitting of the improved form with $R/D = 1.5$. It will be noted that the enlargement required is not overly conspicuous yet the hydraulic efficiency is much improved over that of the conventional form. For a roughness factor of $f = 0.035$ which would correspond perhaps to a moderately rough casting or a rusted steel surface, the saving in resistance is 45 per cent of the resistance of the conventional shape. For a somewhat greater or lesser degree of roughness but still within the commercial or practical surface range, the saving is not quite as great but is still within 5 to 10 per cent of this figure.

The curvature ratio most favorable for piping bends would seem to be in the neighborhood of $R/D = 1.5$, for at this curvature the resistance is near a minimum and yet the fitting is not unduly long. This is most decidedly the case for U-bends, for the resistance increases rapidly with both the sharper and more moderate curvatures. If possible the spacing of piping joined by U-bends should not be less than 2 D. At this point the curvature is $R/D = 1$ and the resistance mounts very steeply as the curvature is sharpened.

U-bends of a very long radius are also uneconomical from the standpoint of hydraulics. If the spacing of the piping must be such that long-radius U-bends result, it is better to use two shorter 90° turns joined by straight pipe. If for instance the pipes to be connected by the U-bend are spaced, say 10 diameters, then the U-bend required would have a curvature of $R/D = 5$. The length of the bend is $5\pi D$ and the friction factor is $(\frac{1+5}{5})^2$. As the deflection coefficient is so small that it may be ignored, the total resistance of the bend may be taken as $(\frac{1+5}{5})^2 5\pi D$ or 22.9 diameters of straight-pipe friction. If, instead of a single U-bend, two 90° turns with a curvature of $R/D = 2$ are used, there would be required a straight piece of pipe six diameters long to join them. The friction of these turns plus that of the straight pipe would be only 20.1 diameters of straight-pipe friction.

If the resistance of the pipe line as a whole is being considered, 90° turns of longer radius show a slight advantage over shorter turns as the longer turns cut down the length of the tangents by cutting off the corner. If cutting corners is permissible, however, a much greater advantage will be gained by the employment of two 45° ells joined by a straight piece of pipe, for this will cut off more of a corner, the hydraulics will be better and the installation more economical.

It would seem from these analyses that in general, long curves and turns should be avoided if hydraulic considerations are to govern. Frequently, of course, this is not the case, but when long lines are laid the curves should be as sharp as circumstances permit so that as much straight pipe as possible is employed. Just so long as curvatures are not sharper than R/D equals about 1.5 or 2 it is better to employ two half turns and a tangent rather than a long curve. When cast iron or other rigid piping is laid it is the usual practice to lay long curves made up of short pieces of straight pipe. This procedure is definitely not as good as laying tangents joined by angle fittings, as less material is then used and the hydraulics are much better especially if improved bends are used for the angle fittings.

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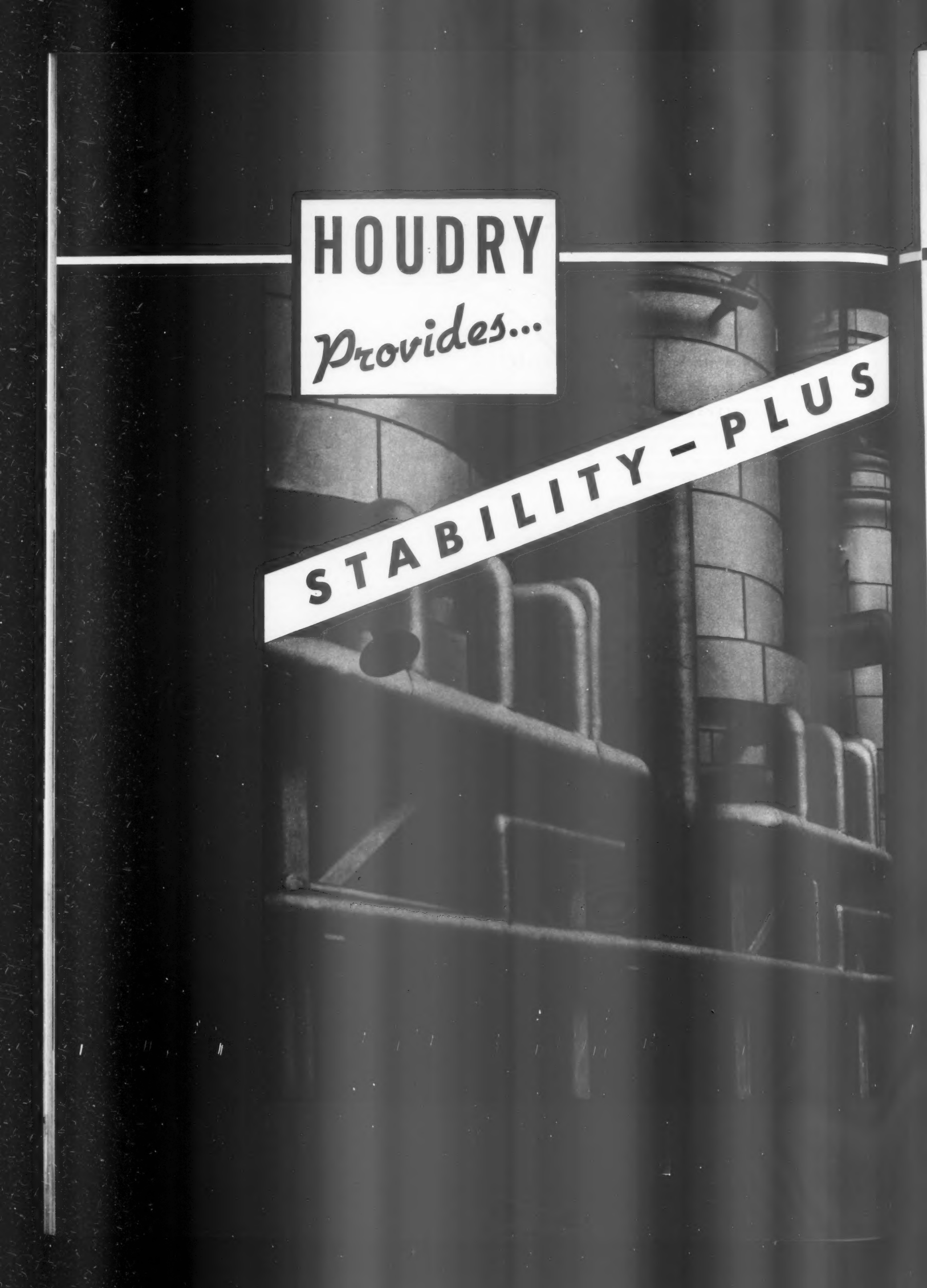
Fig. 9—Typical 4-in. cast ell of improved design where R/d = 1.5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I.B.P.	107	108
10%	143	141
50%	202	201
90%	267	265
E.P.	316	316
Recovery	98.0	98.0
R.V.P. Lbs./Sq. In.	5.9	5.0
Copper Dish Gum	11	21
Glass Dish Gum	3	3
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Handling of High Pressures at La Gloria, Texas, Field

By HARRY F. SIMONS

ENCOUNTERING of high gas pressures is one of the main causes of difficulty in drilling deep wells on the Gulf Coast and the same pressures often cause considerable trouble when a well is completed and attempts are made to produce it. This has led in some cases to unusual well installations, well heads and separators in an effort to economically and efficiently obtain the production from the well.

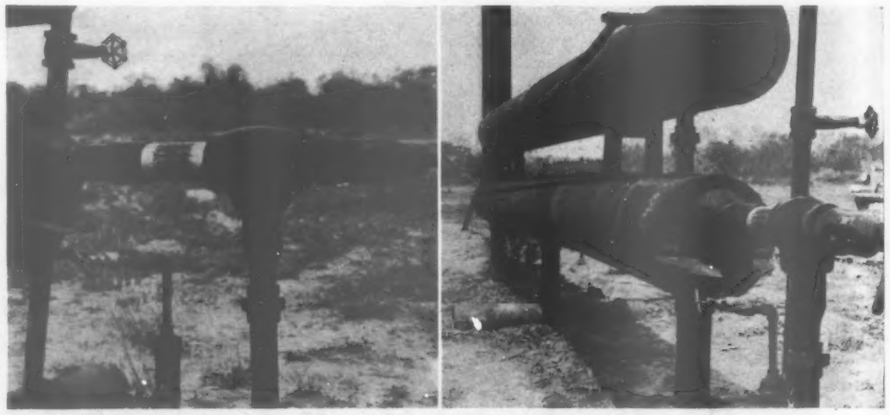
La Gloria field in the Ignacio de La Pena Survey of Jim Wells County and adjoining the townsite of La Gloria is an outstanding example of the pressures encountered and the method designed to circumvent the difficulty. The field now has five wells, four of which produce distillate and the fifth producing 25.2-gravity oil. The discovery well was the Magnolia Petroleum Co.'s No. 1 Sam Maun, which was drilled to a total depth of 7,560 ft. and cased to bottom, after which it was perforated at 6,560-70 ft. and produced 165 bbl. of 60-gravity distillate and 5,250,000 cu. ft. of gas through $\frac{1}{8}$-in. choke; the flowing pressure on the tubing at completion was 2,175 lb. per sq. in. and the casing pressure was 2,325 lb. per sq. in.

The second well in the field was the Magnolia Petroleum Co.'s No. 1 D. D. Maun, 11,580 ft. southwest of the discovery well. This test was drilled to a total depth of 7,233 ft. cased to bottom, perforated at 7,210-30 ft. and produced 143 bbl. of 25.2-gravity oil on initial test; the oil was lifted by gas injection from the discovery well, and is being produced in that manner at the present time. The third well, Magnolia Petroleum Co.'s No. 1 Stolze, drilled to 7,348 ft., total depth, perforated at 7,000-10 ft. and produced 197 bbl. of distillate through $\frac{3}{8}$-in. choke on its initial test. The fourth well, the Magnolia Petroleum Co.'s No. 1 Hornsby, drilled to 7,209 ft., ran 6⅝-in. casing to 7,163 ft., perforated at 7,066-80 ft. and made an initial potential of 21 bbl. of distillate through a $\frac{1}{2}$-in. choke; tubing pressure while flowing was 3,250 lb. per sq. in. and casing pressure was 3,500 lb. per sq. in. All of the production in the field is from sands in the Frio-Vicksburg formation.

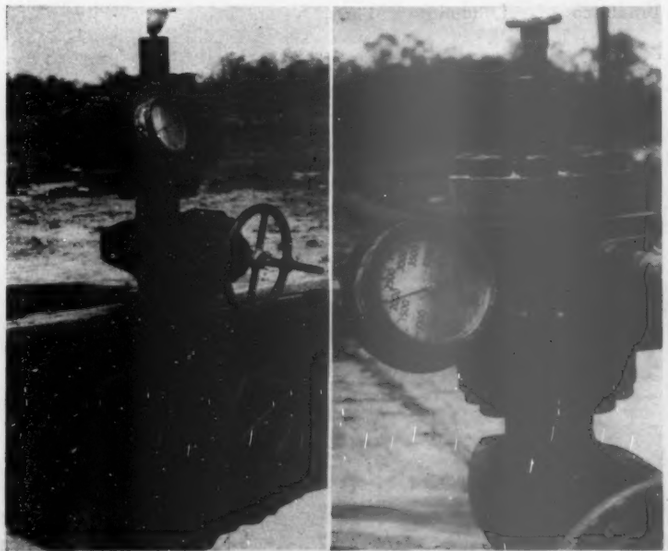
Pressure Control While Drilling

For control of the pressures while drilling, 2,000 ft. of surface pipe is run in the wells; on wildcats this surface pipe is 13⅜-in. casing and on field wells it is 10¾-in. casing, but in either case it is cemented with 1,000 sacks of cement. The surface casing is then equipped with blowout preventers and rams for closing in the well in case it starts to blow out. The mud is carefully conditioned to prevent a blowout starting. After drilling through and electrically logging the sands, 7-in. o.d. casing is then run to bottom and the pipe perforated and the sands tested.

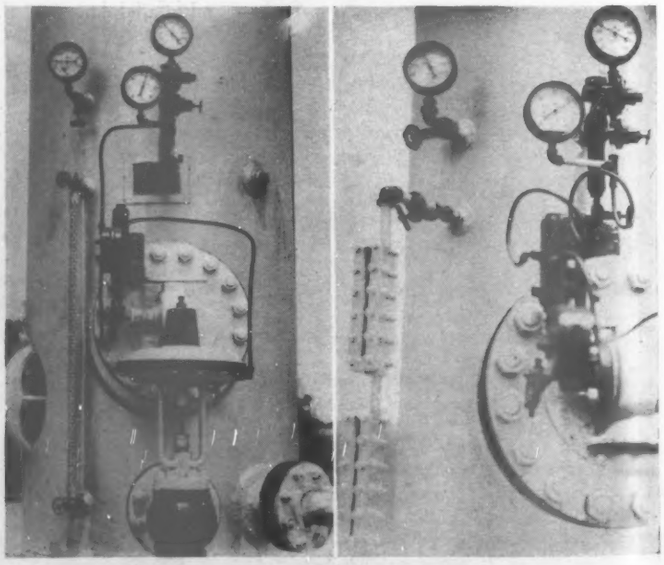
The braden head for connecting the long string to the surface string has a metal ring seal and is capable of withstanding a pressure of 10,000 lb. per sq. in. It also is equipped with two 2-in. wing valves and a packoff tubing hanger. Instead of one master valve on the tubing there are two valves, each having a 10,000-lb. test. On top of the master valves a choke box has been installed and it is held in place by a bolted flange with steel ring packoff. The choke box has space for



Left: Gas is expanded by passing it through a choke just before it enters a heater. Right: A heater made from old casing replaces some of the heat removed from the gas by expansion



Left: Christmas tree on the Magnolia Petroleum Co.'s No. 1 Sam Maun in La Gloria field. The well is flowing distillate from a depth of 6,560-70 ft. Right: Choke box through which the production of the well must pass. This box has a positive and an adjustable choke



Left: Low-pressure separator where the pressure is reduced from about 17 lb. per sq. in. before the production is placed in the tanks. Right: High-pressure separator in which pressure is reduced from 600 to about 60 lb. per sq. in. while a regulator operating at 21 lb. per sq. in. controls the flow through the vessel

Top: From the 2,000 lb. per sq. in. at the well head, the pressure has been reduced to 650 lb. by passing through the regulator. Bottom: Regulator setup on the flow line includes two valves and a dome-type regulator which is set by the line pressure

adjustable choke and a positive choke. The adjustable choke is graduated in 1/64 in. with a maximum opening of 1 in. If desired the well can be flowed through the positive choke but any alteration in the size of the positive choke opening must be made while the well is shut in. Some wells in the field are equipped with only positive chokes. The entire assembly has a test pressure of 10,000 lb. per sq. in. and a working pressure of 5,000 lb. per sq. in.

The wells are equipped with 2-in. external upset tubing to a point opposite the perforations. When tubing was placed in the first well a positive choke was used on the bottom but it was later removed and an automatic bottom-hole regulator installed. This device has the same purpose as a choke except it automatically adjusts itself to different-size openings when any changes are made in the surface controls.

Shut-in pressure on the wells varies from 2,490 to 3,650 lb. per sq. in. Tubing pressure while flowing ranges from 1,500 to 2,000 lb. per sq. in. By using an adjustable bottom-hole choke or regulator, the first expansion of the gas and oil takes place in the bottom of the tubing and there is ample time for it to absorb heat from the fluid in the well before it reaches the surface. At the surface it is again passed through an orifice and expanded with loss of heat being absorbed by the air. The use of a choke in the bottom of the hole and one at the well head prevents the surface connections from freezing.

Regulator Arrangement

The flow line away from the well head was made from 2-in. external upset tubing to withstand the pressure of nearly 2,000 lb. There are about five joints of the 2-in. tubing to the heater and one joint beyond to the point where the line is enlarged to 3 in. At a point about 40 ft. from the well head the production from the well passes through a regulator set consisting of a 2-in. 3,000-lb.-test gate valve, a reducing regulator, pressure gage, bleeder and a 2-in. gate valve. The regulator arrangement on later wells is equipped with a bypass so the 2-in. valves in front and back of the regulator can be closed and the production of the well continued while any repairs are being made on the regulator. The regulator is a sealed dome type and its operating pressure is easily built up from the line pressure. The pressure from the well is reduced to 600 lb. at the regulator.

After leaving the regulator the gas and distillate are passed through a heater where the reduction in temperature due to the expansion is offset by the application of heat. The flow line going into the heater is equipped with an adjustable choke in case it is necessary to regulate the flow through it.

The first separator in the flow setup has a test capacity of 1,000 lb. pressure, although the pressure on the line is only 600 lb. per sq. in. The separator has a vent line with a 1,000-lb.-test adjustable regulator coming from the top which helps control the pressure on the separator. The flow of the fluid from the separator is controlled, pressure on the dump valves being reduced by a pair of small regulators. Fluid gages on the first separator are of the locomotive type.

Pressure used on the second separator is 100 lb. per sq. in. and this vessel does not need to be as strong as the first one. The second separator is also equipped with an adjustable vent valve and automatic-pressure-operated dumping valves; fluid-level gages are of standard design. The distillate is delivered from the second separator into the tank battery. The purpose of the entire arrangement is to eliminate freezing of the well-head and flow-line connections, reduce the evaporation losses and reduce the pressure to where it can be handled safely.

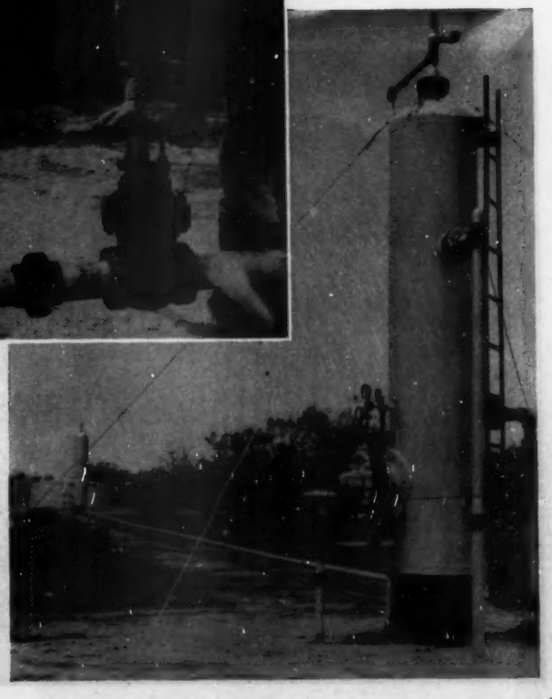
Recording Orifice-Type Meters

The gas accompanying the production from each well passes through a pair of meters after it leaves the separators, the first meter showing the total amount of gas going to operate drilling rigs, gas lifting of water from the water well or gas lifting mud from a hole at completion time. The meters are of the recording orifice type.

When high-pressure gas is required it is taken from the first separator which requires bypassing of the second separator. The distillate wells have a very high gas-oil ratio and can be produced only when the gas can be put to some use. When four rigs were running in the field the production got over 100 bbl. per day as each rig used approximately 750,000 cu. ft. daily. The gas-oil ratio is thus seen to be above 25,000 cu. ft. daily.

The water well, which is operated by gas lift and which at one time provided water for the drilling of four wells simultaneously, is 650 ft. deep and is equipped with 7-in. o.d. casing to a depth of 335 ft. and 5$\frac{1}{2}$-in. casing from there to bottom. A 1-in. macaroni string to the bottom of the well provides enough gas to lift more than enough water to satisfy requirements.

Left: An adjustable choke and a valve on the separator vent helps control pressure on the separator



Right: View showing high-pressure separator in the foreground with low-pressure separator and tankage seen in the distance

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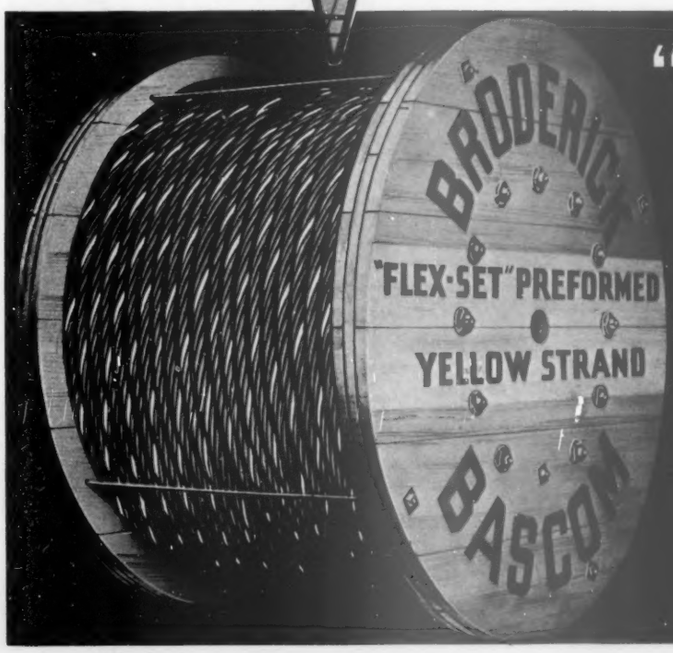

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Redrilling and Workover Program in Humble Field

By NEIL WILLIAMS

J. LEONARD DAVIDSON

President and half owner of Rebel Oil Co. Mr. Davidson is a geologist and pioneer geophysicist on the Gulf Coast. He also spent 3 years in geophysical work in the Dutch East Indies

AN old lease in the Humble field, Texas Gulf Coast, that supposedly had been about depleted, and which had been practically abandoned, is being reclaimed for production in a workover and redrilling program being carried out by Rebel Oil Co. This company, which took over the property less than a year ago, already has restored production to a point that a profitable return is being made to the operators, thus forestalling premature abandonment of the lease and adding to the ultimate recovery.

The lease is that of the Morris Investment Co., consisting of 100 acres, located on the south side of the dome. It was on this lease that the discovery well of deep-flank sand production on that side of the dome was opened in 1928, and around which an intensive, competitive drilling play took place from that year through 1930, resulting in the building up of a large daily flush production.

In that play, South Texas Petroleum Co. (Cullen & West), which then owned the lease and which opened the deep sand production there, drilled a total of 15 wells, producing depths of which ranged from 4,372 ft. to below 5,400 ft. With water encroachment and decline of production further operation of the properties was considered unprofitable and in view of the difficulties and costs of keeping the few wells remaining on production, that company in 1936 gave up the lease to the landowners.

From that time until Rebel Oil Co. took over the property, the lease was in a virtual state of abandonment. Only one well remained on production, and it was making a substantial volume of water with only a small percentage of oil. The lease had been practically stripped except for the pumping rig on this one well, several wooden pumping derricks and some old tanks. Casing was left in the hole in most wells, but the former operators had attempted to recover the tubing. However, in many of the wells, due to sanding, the tubing was stuck and after cutting out what they could, the operators junked the holes.

Reclamation Plans

Plans of the company call for going back into each well, in turn, that is considered to have further potentialities, first cleaning the holes and attempting to recomplete the wells in the same sand in which they had been productive, and then, if not successful in that, testing higher sands either by perforating liner or casing at successively higher levels or by whipstocking up the hole and sidetracking with a new hole to a prospective sand. It also is proposed to drill an entirely new test with a view toward providing more detailed and definite information on sands and formations than that available in the old logs.

Operations are under the direct supervision of J. Leonard Davidson, president and half owner of the company. He is working on the theory, formulated from a close study of old well logs and of general conditions in the area, that inability of the lease to continue on production may have been the result of practices followed in drilling and completing the wells rather than in complete depletion of the sands.

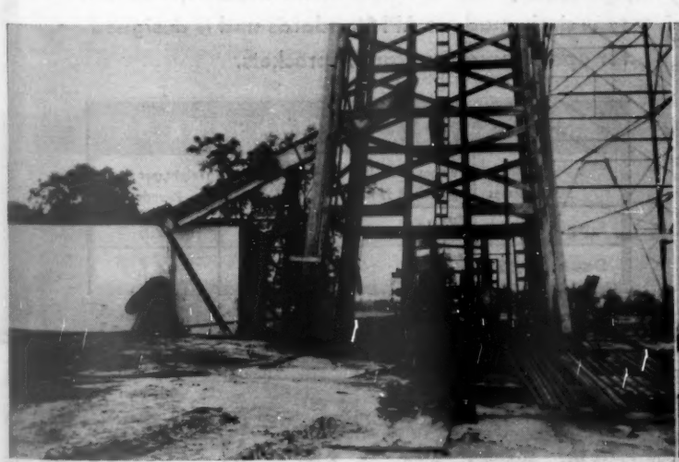
When the lease was developed those practices represented the latest advancements and were adopted by operators generally in the area, but in the light of modern facilities and improvements in drilling and completion technique, and increased knowledge of structural and formational conditions, it is considered probable they were not conducive to effecting maximum recovery.

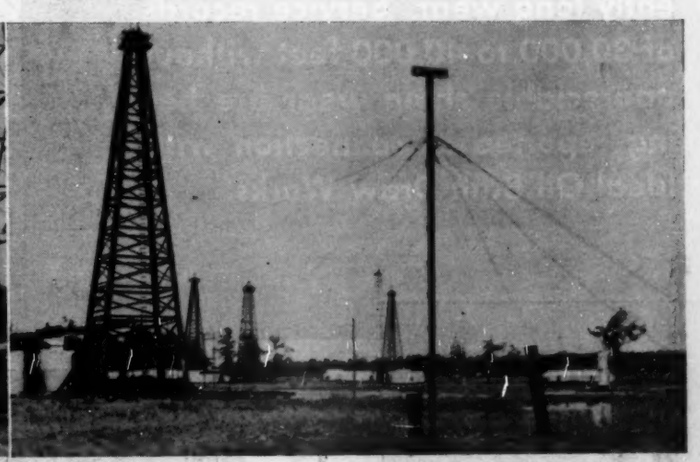
The producing horizon consists of a succession of sands within a thick shaly section. The caving characteristics of the shale made drilling and completion of wells in the section treacherous and difficult with practices then known. In the absence of modern conceptions of mud conditioning and shale control it was customary for operators to drill the shale section, including the producing zone, with as few delays as possible, using heavily weighted mud, and running pipe and screen hurriedly before there was much chance to lose hole.

Usually a first string of pipe was set on top the shale section around 3,000 ft. before going into the shale. Then after making about 1,000 ft. of the section, another string of pipe was run, preparatory to drilling the producing sand horizon. Due to the risk of losing the hole by delays in drilling, little attempt was made to core, and the holes usually were carried to calculated depths without stops. Screen and liner sections generally were made up in the derrick in advance, ready to be run in the hole as quickly as possible. Sometimes as much as 1,000 ft. of screen was run, taking in the entire sand section drilled without particular regard for individual sands.

With such practices followed, Mr. Davidson concluded that it was entirely likely that water sands,

(Continued on Page 64)





Left: Rebel Oil Co.'s No. 1 Morris (originally drilled by South Texas Petroleum Co.) discovery well of deep-flank sand production at Humble, Harris County, and which was restored to production in a lease-rehabilitation program. Note pile of sand in foreground that was cleaned out of the old hole. Right: General view of old Morris lease on south flank of Humble field which Rebel Oil Co. is rehabilitating in a well workover and redrilling program. In foreground is one of the old abandoned wells (with wooden plug) in which oil has been found standing in the hole. Steel derricks in rear are on Texas Co.'s offsetting Landalide lease

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	Pitch in Inches	Number Links in Approx. 10 Feet	Ultimate Strength Pounds	Weight per Foot Pounds
Single	3.125	39	115,000	12.6
Double	3.125	39	230,000	24.6

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IDEAL TYPE G Rotary Chain fills the demand for a longer wearing chain for moderate loads. Although it is lighter in weight and proportionately lower in price than the deep well Ideal Type F, every part subject to wear is made from the same type of wear resistant alloy steel. This chain is of the commercial type and is made to API Standards.

BRIEF SPECIFICATIONS • TYPE F

Pitch in Inches	Number Links in Approx. 10 Foot	Ultimate Strength Pounds	Weight per Foot Pounds
No. 3 API 3.075	39	75,000	8.5
No. 4 API 4.063	30	170,000	17.2

BRIEF SPECIFICATIONS • TYPE G

Pitch in Inches	Number Links in Approx. 10 Ft.	Ultimate Strength Pounds	Weight per Foot Pounds
No. 3 API 3.075	39	48,000	7.3
No. 4 API 4.063	30	112,000	16.5

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as well as oil sands, may have been exposed in some wells, which might have been responsible for any premature encroachment of water in the wells, or that the screens may have become plugged by caving shale, possibly sealing off oil sands with some water sand perhaps being left open. He also observed that there were various instances of old wells in the area that had been standing for some time starting to flow, indicating possibly that their screens had been plugged and then for some reason had opened.

Five wells have been placed back on production so far, and daily production has been built up to around 175 bbl. net oil daily, which because of its special lubricating stock characteristics, is in demand. While the wells make considerable water, this has not been hard to handle. It is expected that production can be built up and maintained around 500 bbl. net oil as additional wells are worked over or drilled.

The company is using a light, old model, yet serviceable rig which it acquired after taking over the lease. Additional tankage and various other facilities also had to be provided, but under the conservative economical practices followed, cost of the equipment already has been paid out. Within recent weeks, the company also has obtained a 122-ft. steel derrick, with which it is expected to drill a deep test, location permit for which already has been taken out.

To get production started quickly after taking over the lease, No. 2 Morris seemed to offer the best chances. This well, located on the north line of the lease, high upon the dome, had been completed November 1928, at a total depth of 4,350 ft., flowing initially about 500 bbl. daily. Although it never had been a particularly good well, and had been abandoned for some time, its location was favorable, and originally logs had showed a fairly good sand at 3,030-60 ft. that previously had not been produced. Tests in this sand by the first operators had failed and the hole had been carried on down to the sand found by the nearby discovery well. In the hole a string of 6⅝-in. casing had been set at 3,026 ft. with 5½-in. casing below that point. The well was found sanded up with tubing stuck in the hole.

After washing down over the tubing stuck below the 3,000-ft. sand, it was backed off and pulled. With the hole clean, the 5½-in. casing was perforated in the sand at 3,030-60 ft., and when tubing was run to place the well on the pump it started to flow. However, the well soon sanded, and it was necessary to clean out the hole again. This was accomplished by reverse circulation, a pile of sand several feet high being recovered. This time, a joint of slotted pipe was run in on the bottom of the tubing string, which was hung with hanger and packer. On the pump, the well started off making around 80 bbl. net oil daily. While since then it has been necessary to clean out the hole several times, the well so far has proved the best on the lease.

Next in order was No. 9, located just south of No. 2. This well had been pumping at the time Rebel Oil Co. took over the lease, being the only producing well, but due to engine trouble it had been shut down. The engine was an old steam-powered unit. Attempts to place it back in service were unsatisfactory so it was replaced with a gas engine which the company had available. While the replacement was being made, the well was cleaned out, after which it was placed back on production from its original producing depth of 5,028 ft. It originally had been completed in August 1929, with an initial flowing production of 1,800 bbl. daily.

Rig then was moved to No. 5, which had been one of the best wells on the lease. Completed in July 1929, at a total depth of 5,159 ft. with an initial production of more than 2,000 bbl. daily, it continued on production until a short time before the lease was given up by the original operators in 1936. It was abandoned then when water broke in in large volume. When the Morris interests took the lease they moved a pump onto the well, and after a short time the water disappeared, leaving pipe-line oil production. However, it later began giving considerable sand trouble, and eventually was abandoned again, with tubing left in the hole. Rebel Oil Co. has cleaned out the hole, reset screen and tubing, and the well is again back on the pump, producing at intervals, but making considerable water.

It then was decided to work over the discovery well, No. 1. This well first was completed in July 1928, at a depth of 3,036 ft. It produced for several months from that sand, but when production went off it was deepened to 5,347 ft., where, in December that year, it was completed as a 5,000-bbl. well, opening deep flank sand for Humble. It had been off production, however, for some time before the lease was turned back to the landowners. The well had sanded practically to the top and had been left with approximately 3,600 ft. of 2½-in. tubing in the hole. The tubing was inside the 5-in. o.d. casing, which had been cut off about 600 ft. up in the 6⅝-in. casing set at 2,994 ft.

Cement Retainer Set

With a wash pipe run over the tubing, the sand was washed out and the tubing cut and pulled down to approximately 3,100 ft., and inside the 5-in. casing. There a cement retainer was set, and the 5-in. casing perforated in the 3,000-ft. sand. A joint of 10-gage screen was run in on 2½-in. tubing, and the well started to flow, making initially around 100 bbl. daily, which production gradually dropped off to around 10 bbl. daily. Screen was pulled to determine the trouble and was found to be plugged with shaly sand. Screen was cleaned and then run in again and the hole washed with reverse circulation. The well started to flow but water broke in, and screen was pulled again, and a new setting made with packer, using slotted pipe. This time, operators succeeded in shutting off water but the well again sanded up. After several attempts to clean out the hole with reverse circulation, work on this well was suspended, pending work on No. 6.

Gas had been noticed boiling out of the casing of No. 6, although the well long before had been abandoned and equipment moved off. A gin pole was set up for this well, and the hole was found to be clean down to approximately 4,800 ft., where sand was encountered. Bottom of the well when it was completed in July 1929, was 4,918 ft., which indicated about 118 ft. of sand on bottom. A fluid test showed approximately 2,500 ft. of high-gravity oil and about 1,800 ft. of water in the hole. The well was rigged up to pump without further work on it, and it pumped 125 bbl. of oil with about 300 bbl. of water on a potential run. Although the well has not been placed regularly on production, pending installation of more adequate pumping equipment, it is pumped at intervals making at the rate of from 10 to 15 bbl. daily when operating, despite the bridge in the bottom of the hole.

Following that, work was resumed on No. 1. This time it was decided to whipstock out of the 6⅝-in. casing and drill a new hole, which was done, the whipstock being set at 2,512 ft. The new hole was drilled to the 3,000-ft. sand, on which 5-in. liner was set and cemented. With screen and tubing run, the hole was washed, and the well came in flowing around 100 bbl. daily for about 3 days when it went dead again. Rigged up to pump, it flowed and pumped by agitation for about 30 days, and since then has been pumping between 30 and 40 bbl. net oil daily with some water.

Moving onto No. 4, located in the northwest corner of the lease, results have not been so successful. This well originally had been a good producer at a total depth of 4,770 ft., where it had been completed in May 1929, making about 2,000 bbl. daily. Logs showed this well encountered a good sand at 3,100 ft., and desiring to test this in a new hole no attempt was made to perforate the casing in the old hole. Instead, a whipstock was set around 2,500 ft., and in the sidetracked hole 22 ft. of promising sand was found at 3,090-3,112 ft. Cores indicated high saturation. Five-inch liner was set and cemented, and then with plug drilled, screen was set and tubing run, but the sand tested salt water. It is considered probable that the well was set too low, but for the present the well is standing, pending decision to drill an entirely new well.

The above are the only wells so far that operators have attempted to work over or clean out. To provide more complete information on the formations by a well drilled by modern exploratory practices, operators are inclined to withhold further working over of old wells until such a time as an exploratory test can be drilled. Plans also are being formulated for drilling this test not only through the horizons already drilled but possibly to the Wilcox, which can be expected in this area around 7,500 to 8,000 ft.

In its pumping operations, Rebel Oil Co. has utilized a new ball and seat valve devised by Mr. Davidson which is designed to reduce the maximum velocity of flow across the valve seat to minimum, permitting relatively large volume of fluid to pass through at a relatively low velocity. Mr. Davidson believes that use of the valve has been an important factor in reducing operating costs by reducing the amount of cutting out, eliminating gas locks and minimizing stress on sucker rods and other equipment. The design is such that the fluid is nozzled against the ball, which takes the full brunt of the current before the seat is subjected to any abrasion.

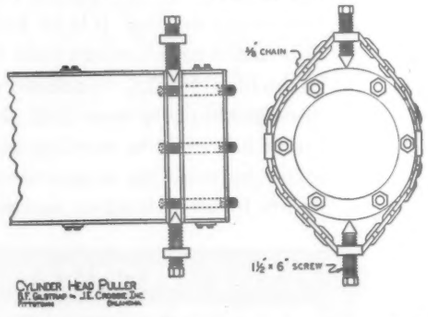
●

Cylinder-Head Puller

(N.G.A.A. Kinks Contest)

HONORABLE MENTION, CLASS A

B. F. GILSTRAP
J. E. Crosbie, Inc., Fittstown, Okla.



This tool consists of jackscrews which are held in place by a chain. By using it, the operation of removing cylinder heads is made easier. By applying steady pressure, the points of the jackscrews are inserted between the head and the cylinder, forcing the head away from the cylinder 1½ in. This makes it possible for a bar to be placed behind the head for the final removing operation. With this tool, chisels and punches do not have to be driven between the head and cylinder. Spreading large pipe-line flanges is another use that has been found for this tool. Using new material, the cost of construction is approximately $8.

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Operating Ideas

Bypass on Boiler Blowoff Line

Prevention of scale in boilers is important as it increases the operating efficiency and eliminates the down time necessary to clean the boiler or replace the tubes. The success of many treatments depends on regular blowing of the boilers as the compounds which form the scale are kept in suspension instead of precipitating out and the only way to remove them from the boiler is through the blowoff. One gasoline-plant superintendent has rigged up his boilers with bypasses on the blowoff so the boilers can be continually blown while they are in operation. The bypasses are made from ⅜-in. steel tubing with needle valves and are attached on the 2-in. line where it comes from the boiler and just beyond the main blowoff valve. In this particular case, soda ash and lime are being used as a treater although the same principle applies to a host of other treating compounds.

Pipe Braces for Tank-Farm Walk

Safety around the terminal tank farm depends to a great extent on keeping tanks and stairways free from mud and board walks between the tanks are being used increasingly. Laying the boards in direct contact with the ground causes them to rot in a short time and mud will often ooze up through the cracks and the boards sink, thus partially defeating the purpose of the walk. The accompanying photograph shows the braces put under a walk at a river-loading terminal in Indiana. The braces consist of 2-in. pipes driven into the ground on each side of the walk and a cross brace welded between them. Holes in the cross braces provide a means of firmly bolting the walk in place.

Absorbing Steam-line Vibration and Elongation

Many field steam-line failures are due to lack of adequate allowance for expansion under heat of live steam. A 120-ft. line, with temperature range from 40° to 240° F., will vary in length more than 2 in. between temperature extremes. This elongation must be cared for by sleeve joint, swings, provision for pipe to "snake" or crawl sidewise, or some other type of fitting if the change in length is not to stress severely line and power fittings. One producer with a line of 120 ft. between field boiler and pump, uses a 4-ft. semicircle of pipe to absorb the expansion, mounting the free end of the steam line on a roller and anchoring the end at the boiler. The half loop of pipe changes diameter as the line lengthens, and absorbs a strain which otherwise might easily cause a break at the pump steam chest. With the loop as guide, no other device is required to insure travel of the steam line over the roller and in line with the timbers over which it rolls.

Swivel Has Steel Bumper for Elevators

The clanging of the elevators against the swivel while drilling progresses is one of the loudest noises around the rig. It also has a damaging effect as the constant jarring will wear away part of the elevators and swivel and may even crack the casting on the latter. The remedy used by this crew takes advantage of gravitational laws. It consists of a

piece of 1½-in. steel about 8 in. wide which is welded to the swivel bowl. The elevators are thus held at an angle of about 15° from the vertical instead of at about 5°. In this position the gravitational force is enough to overcome the movement of the elevators ordinarily caused by the bouncing of the bit.

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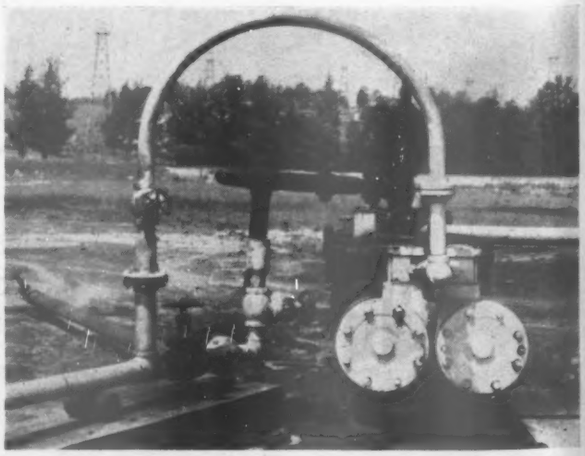
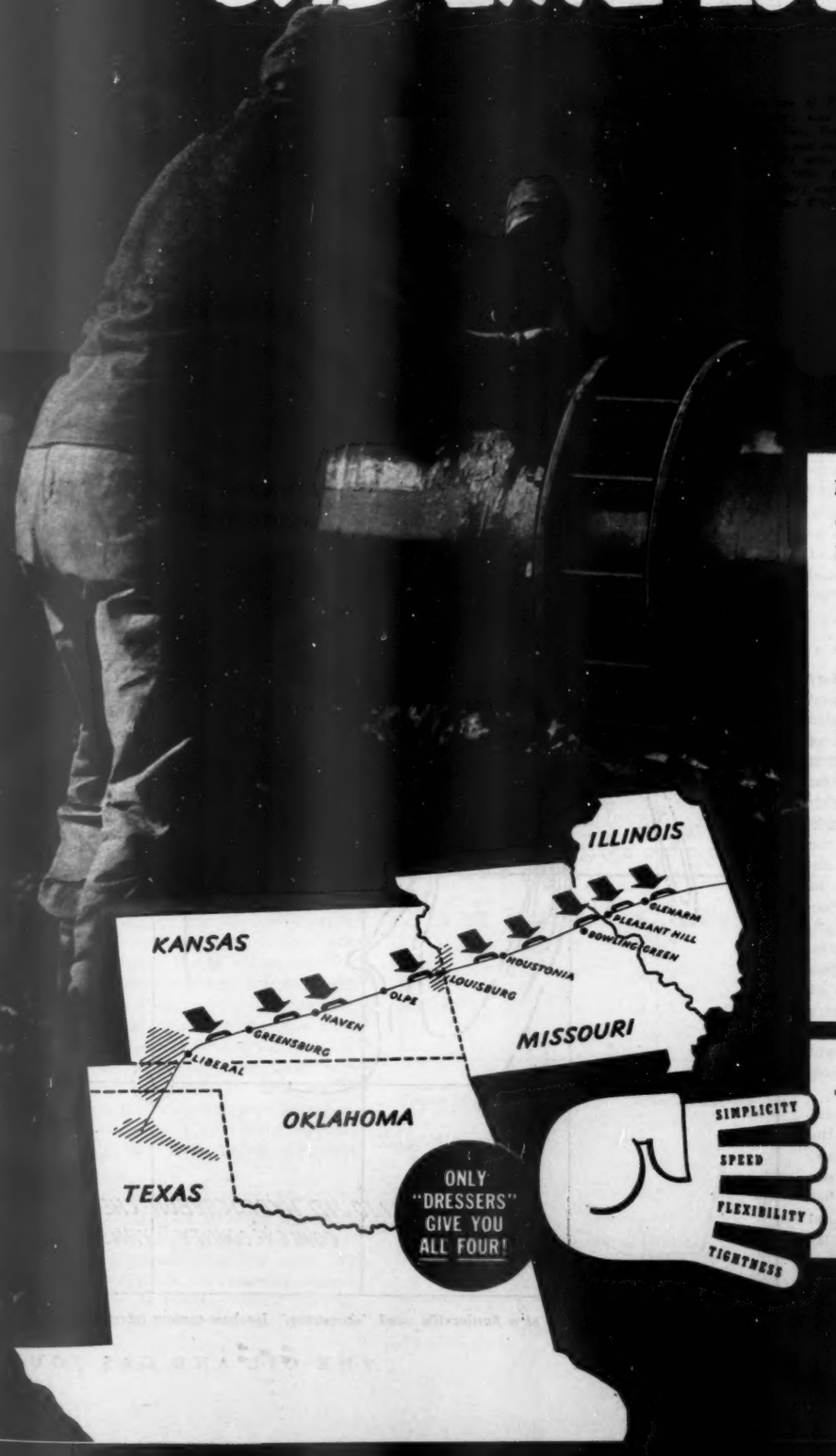


"DRESSERS" JOIN 133 MORE MILES OF GAS-LINE LOOPS!



From 25 to 30 million additional cubic feet of natural gas per day will be available to consumers when this 1940 looping project is completed. Although January was the coldest ever recorded in nearby Kansas City, the work proceeded with few interruptions . . . thanks to good organization, modern pipe-laying equipment, and Dresser Couplings. ● Panhandle Eastern's previous experience* with Dresser Couplings had demonstrated their Simplicity, Speed, Flexibility, and Tightness. And so once again, more than 9,100 "Dressers" were the logical choice. Snows and extremely cold weather strongly confirmed the wisdom of this choice. ● DRESSER MANUFACTURING COMPANY, BRADFORD, PENNSYLVANIA.

"Dressers" Join Original Loop Lines

*In 1937, Panhandle Eastern Pipe Line Company used more than 17,000 "Dressers" to connect 271 miles of original looping paralleling its main line. This mileage consisted of six 24" OD loops totalling 227 miles east of Liberal, Greensburg, Haven, Olpe, Louisburg, and Houstonia; plus two 22" OD loops totalling 44 miles east of Centralia and Pleasant Hill.

Petroleum Exploration by Means of Soil Analysis

By JOHN W. MERRITT
Geochemical Service Corp.

As far back as history goes escaping oil and gas have been observed by man. Some of the so-called eternal fires, probably ignited by lightning, obtained their fuel from this source. It was not until within the past century that the knowledge of the existence of oil and gas seeps was related to underground reservoirs of those hydrocarbons. For some time thereafter the search for favorable drilling sites for oil and gas wells was led by a search for oil and gas seeps, in the neighborhood of which the operator expected to tap the parent reservoir.

Before long the operator discovered that frequently drilling near a seep often resulted in a failure. Furthermore, oil and gas seeps became more and more difficult to find, so that another method of exploration seemed imperative. This necessity brought about the discovery of the anticlinal theory. This theory was based upon the assumption that all oil sands contain salt water, and that the oil, rising through the water to the cap rock would drift upward along the under side of the cap rock into the top of any adjacent closed dome. Inasmuch as earth strata, through which the drill would pass in reaching the oil sand, are generally of uniform thickness, it was assumed that a closed dome, discovered by mapping the formations exposed at the surface, would reflect a similar dome in the oil-bearing formation. The application of the anticlinal principle was so satisfactory that it led to a very rapid growth of its use, until practically no large company would consider a test location without a favorable surface-structure map.

Better Structures Soon Exhausted

With the rapid development of surface geology the better structures were soon exhausted and less definite and acceptable structures were also pretty well used up, so that another method of geological exploration became necessary. The first thing tried was the mapping of buried formations by the use of shallow test holes. As soon as this type of exploration exhausted the shallow "markers," making deep core drilling necessary, the added expense drove the oil industry to still another method. This latter method, or group of methods, known as geophysics, determines structure on the basis of gravity anomalies, or depth indications based upon the timing of earth waves. Still another geophysical method was based upon the observation that sometimes the presence of a structure is indicated by a change in the earth's magnetic field. These methods, particularly the first two, proved very successful and brought about renewed exploration activity, and are still in active use.

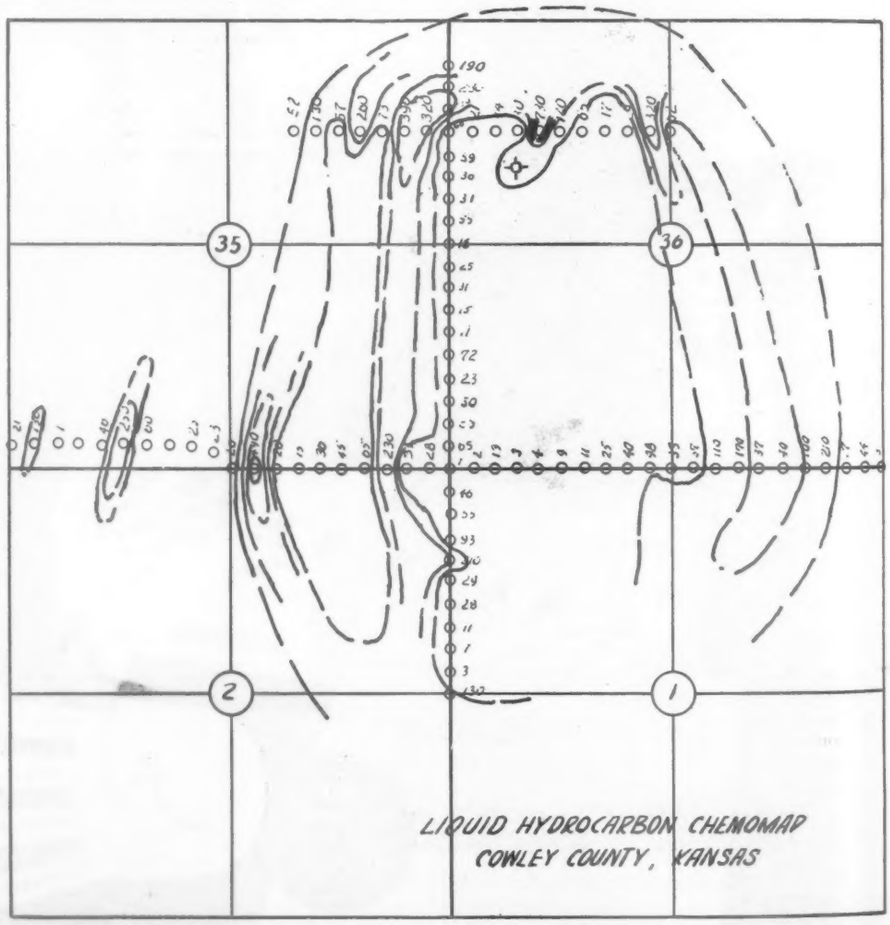
Strange to say in all these years since the beginning of oil exploration in Pennsylvania, the direct method was very seldom resorted to, and certainly, if so, not scientifically. Its principal use in the last 20 or more years, until recently, has been limited to the discovery of salt domes, around the margins of which gas seeps very frequently occur. When such gas seeps occur under water, the continuous appearance of gas bubbles shows their location. Drilling in the vicinity of these seeps, possibly after studying the local geology to confirm the presence of the sale dome hinted at by the gas seep, has resulted in the discovery of new salt-dome fields.

Determining Limits of Fields

A few years ago the thought came to students of petroleum geology that if gas seeps were found in visible quantities, possibly over practically every buried oil or gas deposit, a very slow seepage might occur which could be determined by microchemical means. This thought was followed up and tried out by drilling shallow holes through the soil to the first bedrock, and determining the volume of gas seepage into these holes by analysis of this "soil air." It was discovered that when such tests were completed over known oil-producing fields, the limits of the fields could be determined by the pattern of the "soil air" hydrocarbon values. This method, developed abroad, was imported to the United States and tried. The mechanics of this type of sampling, however, proved to be a handicap from the point of view of field efficiency and secrecy. Taking a lesson from the gas mask, American chemists decided that there should be sufficient adsorption of hydrocarbons to enable the soil itself to be used as a hydrocarbon collecting medium. Accordingly, a new method of sampling was discovered, and now the leading geochemical laboratories transport soil samples to the laboratory, where the adsorbed hydrocarbons are removed and analyzed.

Observation has taught the petroleum geochemist that the ideal pattern over production takes the form of a set of high hydrocarbon values directly above the margin of the oil body. He has learned that this marginal anomaly, frequently called a halo, is not necessarily related to structure, but may occur above the margins of any oil body, whether in the form of a dome, faulted structure, shore line or other stratigraphic trap. The reader should mark well the importance of this direct relationship, for it means that a method of oil exploration directly related to the oil itself has been discovered.

Obviously the whole method is based upon ob-



Geochemical map covering part of a Bartlesville sand "shoestring." Isochem contour interval 100 parts per billion

servation and analogy. It is natural for scientists to try to discover the cause of such phenomena and many attempts are now being made to explain the halo theory. From the practical operator's point of view, however, the factual observations seem more important than theoretical explanations. Numerous observations of hydrocarbon value relationships are being made from day to day by geochemists in the course of their daily work, which may be a further guide as to the depth, pressure, and other factors that govern initial production, and it seems more important that the geochemist analyze these observations of phenomena in the light of tests that follow his work rather than that he spend most of his time explaining the halo. Explanations can follow after more data has been accumulated.

It appears at this stage that the laboratory technique developed in petroleum geochemistry is advancing more rapidly than the interpretative technique. In other words, it is our present belief that most of the failures of drilling tests in geochemically favorably reported areas are due to imperfect interpretation of data rather than to faulty laboratory procedure. The interpreter should be extremely well versed in the knowledge of geology as related to earth structures, earth movements, rock textures, mineralization, and all other elements related to the formation of structures relating to the accumulation of oil.

Avoiding Pitfalls in Interpretation

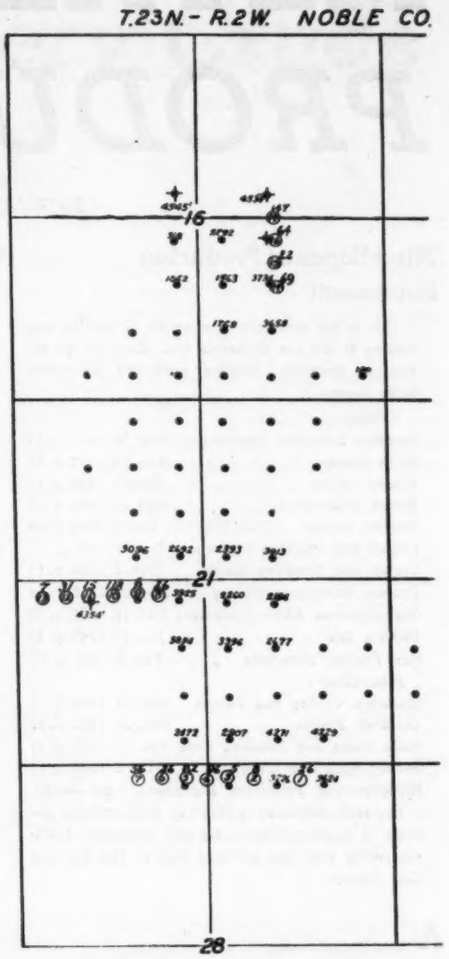
The geochemical interpreter should not let his geology blind him to chemical facts presented to him by his laboratory analyst. As a type example, it would generally be assumed that if a halo were found entirely enclosing a given area, by the use of a sufficient number of anomaly points to leave the closure without question, and if the enclosed area corresponded with a determinable surface or subsurface structure, that the anomalies so found would definitely mark the outer margin of a body of oil; in about 99 cases out of 100 this would be true, but in the 100th case it might be found that the anomaly marked the inner margin of an annular body of oil, around a "baldheaded" structure. To avoid this error the petroleum geochemist must run his profile lines far enough out to find and determine the outer margin of a possible annular body. Even then it would not necessarily be possible to determine whether these two concentric halos determined an annular body of oil or whether each halo marked the outer margin of two separate concentric bodies at different depths. To avoid drilling a dry hole under such conditions, the operator might drill between the two halos; thus in any event, he should find one productive sand. It is also becoming increasingly obvious to the petroleum geochemist that there appears to be a relationship between relative hydrocarbon values from point to point, within the favored area, in that the lower inside values appear to follow the more favorable sand condition and the higher inside values indicate probably lighter initial production. Moreover, the values inside the halo should be considerably lower than the average values outside the halo. Otherwise, light or "teaser" production may be expected. These factors all must be taken into consideration in recommending an area and a test location within the area. If these latter observations continue to stand up under repeated tests another useful set of analogies will have been established.

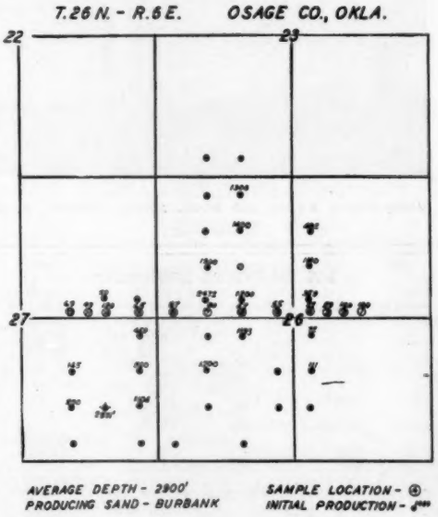
Three sketches are shown herewith. One illustrates the contour method of showing hydrocarbon-value relationships where a group of profiles are taken to cover a certain area. The other two show the hydrocarbon-value relationships along a single profile, which, of course, cannot be contoured, but must be illustrated in profile form. The latter illustrate test lines about which the laboratory had no information save the samples themselves and the spacing and arrangement of sample points. These tests were part of a series taken to ascertain laboratory efficiency, in determining the presence of oil and the marginal limits thereof. It is frequently the custom of the petroleum chemist to run a single test profile across an area to determine whether positive or negative results will be attained. In the case of negative results, further work is dropped. In the case of positive results, additional profiles should be run until at least six or eight marginal control points have been found.

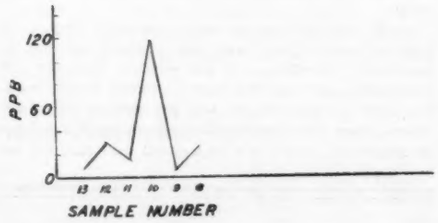
Geochemistry Has Own Place

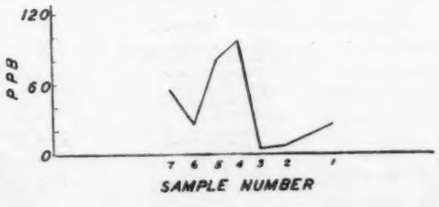
The new geochemical method of petroleum exploration is not offered as a substitute for geology or geophysics, nor is it considered at the present time to be usable for general broad reconnaissance, though it undoubtedly has possibilities in that direction. On the other hand, especially in the case of shore lines, sand lenses or other stratigraphic traps, its only competitor is the drill and one dry hole, saved in search of a stratigraphic trap, will pay for a very extensive geochemical survey. Geochemistry has been exceptionally successful, in our experience, in determining both large and small bodies of stratigraphically trapped production, or in following partially developed production to its ultimate limits. This is an important advance in the development of petroleum exploration, because it seems probable that future reserves of oil will depend more and more upon the discovery of that type of production, as structures become less and less possible to find. It is up to the geologist or the stratigrapher to find the areas most likely to contain stratigraphic accumulations. After he has done so, geochemistry is of the utmost help in finding the oil itself at the least possible expense.

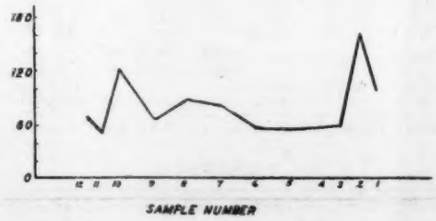
Right: Test profiles across margins of Wilcox production in the Billings structure to determine selectivity in finding oil-water contact. Below: Test profile to determine type of hydrocarbon curve to be expected above stratigraphic trap production

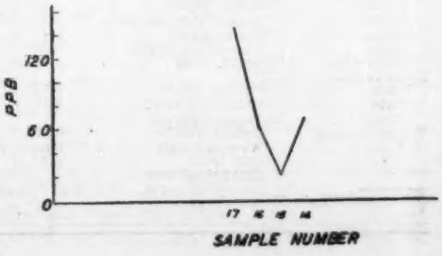












METALS in PRODUCTION

By W. L. NELSON

Miscellaneous Producing Equipment

This is the sixteenth of a series of articles pertaining to the use of metals and alloys in the petroleum industry. Articles published heretofore have been:

Drilling—

Portable Servicing Equipment ... **Aug. 10, 1939, p. 58**
Slush Pumps ... **Aug. 24, 1939, p. 62**
Rotary Chain ... **Sept. 7, 1939, p. 48**
Rotary Equipment ... **Sept. 28, 1939, p. 58**
Drilling Hoists ... **Oct. 5, 1939, p. 54**
Engine and Machine Castings ... **Oct. 19, 1939, p. 57**
Crown and Traveling Blocks ... **Nov. 2, 1939, p. 49**
Drilling String and Casing ... **Nov. 30, 1939, p. 68**
Miscellaneous Alloy Equipment Dec. 14, 1939, p. 53
Drilling Bits ... **Jan. 18, 1940, p. 45**
Hard-Facing Materials ... **Feb. 8, 1940, p. 50**

Production—

Strainers, Tubing and Valves ... **Mar. 14, 1940, p. 56**
Oil-Well Pumps ... **Mar. 21, 1940, p. 62**
Balls, Seats and Polished Rods **Apr. 11, 1940, p. 92**
Sucker Rods and Couplings ... **May 2, 1940, p. 53**
Miscellaneous Producing Equipment (this issue).

The recommendations given in these articles are those of metal manufacturers and equipment builders rather than the editorial staff of The Oil and Gas Journal.

AMONG the many miscellaneous equipments that are used in producing oil are pull rods, meters and instruments, pumping jacks, speed-reducer gears and parts, sling or construction chain, field tanks, and water-disposal lines.

Pull rods could be made of any of the materials employed for sucker rods but the service is not severe and the ready accessibility of pull rods permits the use of the simple carbon and manganese steels shown in the table.

Meter and instrument metals embrace almost all types of special alloys and hence only a few can be mentioned. In addition to the common need for corrosion-resistant materials such as monel metal, stainless steel or iron, nickel, and the german or nickel silvers, there are many special requirements that may be important. Invar is a high-nickel iron that has no coefficient of expansion and hence such a material may be used for pointer scales or dials, or for lever arms whose length must remain constant. In other instances the common steels cannot be used because of their magnetic qualities and the high-alloy austenitic steels or nonferrous alloys must be employed.

Gray cast-iron housings or casings are used on many instruments particularly pressure regulators and meters. This material is not particularly resistant to corrosion but it is cheap and can be cast into intricate shapes at little cost. Thus, if corrosion does take place, the thickness of the casting will suffice for a long time.

Field tanks are usually constructed of plain low-carbon steel because more expensive materials are not justified. Low-copper steels (0.2-0.5 per cent) have, however, been used to some extent particularly in an attempt to withstand external corrosion of the tanks. Galvanized iron also assists in combating external corrosion but it is somewhat expensive and regular applications of aluminum paint or other paints appears to be equally successful.

The unpainted condition of many field tanks infers that painting does not pay, but maintenance men believe that external painting pays not only in preventing corrosion but in reduced insurance rates and morale of the field workmen. Painting of the interior of tanks at 6-month intervals almost stops corrosion but is an expensive method. Redwood tanks are still used to some extent for high-sulfur crude oils and are perhaps the best type of material for severe corrosion. The supervision and labor required in constructing the tanks, moving them and maintaining water on the stave joints are the disadvantages that are working against the use of redwood.

Aluminum roofs and top side plates are useful in alleviating internal corrosion but they are not widely used. Protection accrues by preventing pieces of rust or sulfide scale from dropping from the roof or parts of the tank exposed to vapor. Such scale normally falls to the bottom of the tank coming in contact with salt brine and causing severe corrosion and even corrosion pits beneath each piece of scale. Tanks with severely pitted or leaky bottom plates may be saved for a time by pouring a layer of concrete in the bottom.

Machine flame cutting is now used extensively for cutting the plate steel parts of pumping jacks. Scarcely any cast parts are now employed. Welding and gas cutting is also becoming of greater value around a lease by permitting the construction of many simple equipments such as ladders, pipe supports and platforms.

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Ninety-degree swing, rub block, safety throwoff, pendulum and pendulum backcrank in Fitts pool of Oklahoma

MISCELLANEOUS EQUIPMENT

Equipment—	Material	Composition, per cent— C	Ni	Cr	Mo	Cu	Others	Physical properties— Yield point	Elong. in 2 in.	Brinell hardness	Notes	Reference
Pull rods	Carbon steel	0.45	....	....	....	....	0.22 Si	57,000	27	187	Normalized	43
	Manganese steel	0.35	....	....	....	....	1.75 Mn	76,500	31	232	Normalized	43
Meter parts	Monel metal	...	63.0	(Al 3.5)	....	30.0	1.5 Fe	.....	...	...	Corrosion resistant	21
	Nickel silver	...	8-20	....	....	50-65	Zn	.....	...	...	Corrosion resistant	..
	German silver	...	20-31	....	....	46-50	Zn	.....	25	80	Corrosion resistant	..
	Bronze	...	....	....	....	88	12 Sn	.....	...	...		
	Brass	...	....	....	....	30	70 Zn	.....	...	...		
	Stainless iron	0.08	8.0	18.0	....	....	....	45,000	60	135	Annealed—corrosion resistant	..
	Invar	0.18	35.5	....	....	....	Fe	24,000	39	...	Annealed—no expansion	..
Orifice plates	Monel metal	...	63.0	(Al 3.5)	....	30	1.5 Fe	.....	...	...	Corrosion resistant	21
	Stainless steel	0.16	8.0	18.0	....	....	....	80,000	35	150	Rolled—corrosion resistant	..
Speed reducer:												
Pinions	S.A.E. 4620	0.4	1.8	....	0.25	....	0.4 Mn	140,000	18	320	Quenched and tempered	17-54
Shafts	Nickel chrome moly.	0.4	1.75	0.65	0.3	....	....	160,000	16	350	Quenched and tempered	6-54
Shafts	S.A.E. 3140	0.4	1.25	0.6	....	....	....	125,000	16	300	Quenched and tempered	6-16
Gears	Cast nickel mang.	0.35	1.5	....	....	....	1.3 Mn	57,000	18	...		54
Wrist pins	S.A.E. 3140	0.4	1.25	0.6	....	....	....	125,000	16	300	Quenched and tempered	16
Field tanks:												
Plate	Carbon steel	0.12	....	....	....	Trace	0.47 Mn	31,300	28	...	Annealed	..
Plate	Vanadium steel	0.19	....	....	....	0.06	0.17 Va	42,500	40	...	Annealed	..
Roofs	Aluminum*	...	....	....	....	....	....	.....	...	...		55
Water disposal	Armco iron	0.012	....	....	....	....	....	22,000	40	85	Heat-treated	56
	Wrought iron	0.03	....	....	....	....	....	27,000	35	120		56
	Cast iron	3-4	(Mn	2.0	Max.)	....	1.5-3 Si	.....	4	...		56
	Galvanized iron	...	....	....	....	....	....	.....	...	...		56

*Probably aluminum alloys.

Mid-Continent Refinery Crude Runs Decline in June

DAILY crude runs to stills in the Mid-Continent area were cut back 2,315 bbl. for the month of June, according to estimates reported by individual companies. East Texas, Kansas, and North Central Texas increased crude runs over last month, while the balance of the area represented in this table reduced operations, with the exception of Southwest Texas, where no changes were made. Total daily crude runs for the month were estimated at 553,785 bbl.

Oklahoma

Crude runs in Oklahoma dropped slightly in June, with an estimated total of 157,500 bbl., compared with 158,500 bbl. reported last month. This 1,000-bbl. decrease was accounted for by the closing of the Sun Oil Co. plant at Yale, which will be shut down for a short period, and a 300-bbl. reduction in daily crude runs by the Rock Island Refining Co. at Beckett. The Wilcox refining division at Bristow and the Continental plant at Ponca City show an increase in daily runs, with the balance of the refineries maintaining schedules set in May.

Kansas

Estimated daily crude runs in Kansas totaled 144,800 bbl. in June. Changes in crude schedules were reported by the following companies: Chanute Refining Co., Chanute, from 700 bbl. to 800 bbl.; El Dorado Refining Co., Eldorado, from 5,000 bbl. to 6,000 bbl.; Phillips Petroleum Co. at Kansas City, up 600 bbl. daily; Shallow Water Refining Co., Scott City, from 1,050 bbl. to 1,150 bbl.; and the Socony-Vacuum Oil Co. plant at Augusta, which reduced its crude runs 1,000 bbl. in June.

North Louisiana and Arkansas

In Arkansas crude schedules for June were down 2,050 bbl., reflecting 2,000-bbl. and 50-bbl. daily reductions at the Lion Oil Refining Co. plant and the Root Refining Co., respectively, both at El Dorado.

Mid-Continent Crude Runs

Average Daily (Barrels)

(Advance estimate compiled by The Oil and Gas Journal)

	1938	1939	1940
January	529,710	503,405	532,085
February	507,985	494,910	526,785
March	491,935	497,180	531,645
April	532,120	523,535	532,845
May	527,315	534,535	556,100
June	540,005	541,090	553,785
July	557,520	550,755	.....
August	554,810	556,095	.....
September	555,695	550,830	.....
October	531,325	547,725	.....
November	524,035	537,375	.....
December	503,530	527,230	.....

Operations by Refinery District

	Daily crude runs		
	June	May	Incr
Arkansas	29,400	31,450	*2,050
East Texas	43,000	41,900	1,100
Kansas	144,800	144,000	800
N. Central Texas	39,185	37,225	1,960
North Louisiana	39,000	39,225	*225
Oklahoma	157,500	158,500	*1,000
Southwest Texas	17,750	17,750	.....
W. Texas Panhandle	83,150	86,050	*2,900
Total	553,785	556,100	*2,315

*Decrease.

Total crude runs in the North Louisiana area were 39,000 bbl., compared with 39,225 bbl. in May, increases at some plants being more than offset by decreases at others. Those refineries showing a change in daily crude-run schedules were the Arkansas Fuel Oil Co., increasing runs 1,000 bbl.; Evansville Oil Corp., from 325 to 400 bbl.; Rodessa Oil & Refining Corp., from 8,500 bbl. to 8,000 bbl., and the Premier Oil Refining Co. of Texas, Cotton Valley, which reported a reduction of 200 bbl. daily. It was estimated that gasoline stocks in the North Louisiana, Arkansas, and East Texas districts were reduced during the past month by about 200,000 bbl.

East Texas

Daily crude runs in the East Texas area were advanced again in June with 43,000 bbl. scheduled to be processed daily, compared with 41,900 bbl. in May. This increase in activity is due entirely to the McMurrey Refining Co. at Tyler, which has reported 4,500 bbl. daily to be run this month, compared with 1,000 bbl. in May. Several of the plants have made small reductions. The Model Oil & Refining Co. plant at Kilgore has been dismantled. The Talco Asphalt & Refining Co. was dissolved as a copartnership and is now a corporation under the laws of the State of Texas, conducting business under the same name. The Gladewater Refining Co. has just completed installation of an Ethyl blending plant of 4,250-gal. capacity.

Mississippi's first refinery, planned by E. C. Johnston of Longview, Tex., is apparently going to be built at Vicksburg. It will process Tinsley crude from Yazoo County, the state's first oil field, in which Johnston has production. This refinery would add to the outlet of crude from the field, all of which is now being shipped by tank car to Baton Rouge for processing by Standard Oil Co. of Louisiana. The site of the old Acme Veneer Co. plant and adjacent acreage are reported to have been purchased but no other information as to the capacity of the plant has been released.

Estimated Daily Average Mid-Continent Refinery Crude Runs for June

OKLAHOMA

Company and location—	Daily capacity	Av. dly. runs June	Av. dly. runs May
Anderson-Prichard Ref. Corp., Cyril	8,000	6,500	6,500
Bareco Oil Co., Barnsdall	5,000	3,500	4,000
Bell Oil & Gas Co., Granfield	4,500	3,000	3,000
Ben Franklin Ref. Co., Ardmore	6,000	3,750	3,750
Black Gold Ref. Co., Oklahoma City	2,500	2,000	2,000
Champlin Ref. Co., Enid	16,000	15,000	15,000
Cities Service Oil Co., Okmulgee	4,000	(*)	(*)
Cities Service Oil Co., Ponca City	12,000	10,000	10,000
Continental Oil Co., Ponca City	28,000	24,750	24,000
Cushing Ref. & Gasoline Co., Cushing	4,200	3,500	3,500
Deep Rock Oil Corp., Cushing	10,000	9,000	9,000
Johnson Oil Ref. Co., Cleveland	6,000	4,000	4,000
Mid-Continent Pet. Corp., West Tulsa	35,000	21,000	21,000
Omar Ref. Co., Garber	5,000	(*)	(*)
Phillips Pet. Co., Okmulgee	6,000	6,000	5,950
Peppers Gasoline Co., Oklahoma City	500	400	400
Rock Island Ref. Co., Beckett	7,500	6,000	6,300
Sinclair Ref. Co., Sand Springs	6,000	5,600	5,600
Sun Oil Co., Yale	5,000	(*)	1,500
Sunray Oil Co., Allen	7,000	4,000	4,000
Texas Co., West Tulsa	16,000	15,000	15,000
Tide Water Oil Co., Drumright	12,000	10,000	10,000
Wilcox Ref. Division, Bristow	5,000	4,500	4,000
Total	211,200	157,500	158,500

*Shut down.

KANSAS

Company and location—	Daily capacity	Av. dly. runs June	Av. dly. runs May
Anco Ref. Co., Garnett	500	350	350
Bareco Oil Co., Wichita	5,000	5,000	5,000
Bay Pet. Co., McPherson	4,000	3,000	3,000
Chanute Ref. Co., Chanute	1,000	800	700
Consumers Cooperative Assn., Phillipsburg	3,000	3,000	3,000
Derby Oil Co., Wichita	8,000	6,500	6,500
El Dorado Ref. Co., Eldorado	7,000	6,000	5,000
Falcon Ref. Co., Inc., Great Bend	2,500	1,800	1,800
Globe Oil & Ref. Co., McPherson	15,000	15,000	15,000
Kanotex Ref. Co., Arkansas City	12,000	7,000	7,000
National Ref. Co., Coffeyville	8,000	4,200	4,200
Pet. Products Co., Chanute	1,250	1,000	1,000
Phillips Pet. Co., Kansas City	23,000	18,000	17,400
Roper Pet. Co., Parsons	750	(*)	(*)
Shallow Water Ref. Co., Scott City	2,000	1,150	1,050
Sinclair Ref. Co., Coffeyville	12,000	9,500	9,500
Sinclair Ref. Co., Argentine	11,000	9,500	9,500
Skelly Oil Co., Eldorado	23,000	20,500	20,500
Socony-Vacuum Oil Co., Inc., Augusta	25,000	22,000	23,000
Standard Oil Co. (Indiana), Neodesha	7,500	7,000	7,000
Vickers Pet. Co., Potwin	4,000	3,500	3,500
Total	175,500	144,800	144,000

*Shut down.

ARKANSAS

Company and location—	Daily capacity	Av. dly. runs June	Av. dly. runs May
Berry Asphalt Co., Waterloo	2,000	1,200	1,200
Henry H. Cross, Smackover	6,000	3,500	3,000
Lion Oil Ref. Co., El Dorado	17,000	15,000	17,000
Macmillan Pet. Corp., Norphlet	2,500	2,000	2,000
Root Ref. Co., El Dorado	10,000	7,500	8,050
Stephens Ref. Co., Stephens	700	200	200
Total	38,200	29,400	31,450

NORTH LOUISIANA

Company and location—	Daily capacity	Av. dly. runs June	Av. dly. runs May
Arkansas Fuel Oil Co., Bossier City	23,000	19,000	18,000
Atlas Pipe Line Co., Shreveport	12,500	6,000	6,000
Bayou State Oil Corp., Hosston	800	800	800
Evansville Oil Corp., Cotton Valley	1,000	400	325
Pennant Ref. Co., Princeton	750	500	500
Premier Oil Ref. Co. of Texas, Cotton Valley	3,500	2,700	2,900
Rodessa Oil & Ref. Corp., Cedar Grove	12,000	8,000	8,500
Standard Oil & Gas Co., Superior	5,000	1,600	2,200
Total	58,550	39,000	39,225

*Shut down.

EAST TEXAS

Company and location—	Daily capacity	Av. dly. runs June	Av. dly. runs May
Beacon Oil & Ref. Co., Henderson	4,500	(*)	(*)
Danciger Refs., Inc., Longview	6,000	(*)	(*)
East Texas Ref. Corp., Longview	10,000	5,000	5,000
Gladewater Ref. Co., Gladewater	3,000	2,000	2,000

(Continued on Page 82)

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FIELD OPERATIONS

Summarizing the Week's Developments

MICHIGAN—A wildcat in Huron County, many miles from production, stands with several hundred feet of oil in the hole and is believed to be the opening well of a field. It is the first oil well in the county.

TEXAS: Gulf Coast—A distillate field is being opened in the Blessing area in Matagorda County, and another in the Wilson Creek area in the same county. The discovery well in the latter field flowed 402 bbl. in 24 hours through drill stem early this week.

Southwest Texas—Two pools were opened in Starr County and seven wildcats are being tested for production in Jim Wells, Duval, Jim Hogg, Starr, and Cameron counties.

West Texas—During the past 2 months six wildcats in five counties have indicated commercial oil production. All are believed potential field openers, but none of them has yet been given an official gage. They are located one each in Crane, Andrews, Ector, and Stonewall counties and two in Ward County.

West Central Texas—Southern Haskell County's Palo Pinto lime field opened several months ago has been given a southwest extension of a mile which brings the producing area into northern Jones County. The new well is expected to have a much larger initial production than the discovery well.

North Texas—Montague County's Omohundro field centered the attention in North Texas as it was given a second oil well and ½-mile north extension. Geologists have estimated this field will ultimately embrace 15,000 acres.

Eastern Texas—Willow Springs, Gregg County's deep Trinity series gas field, has been given its third deep producer and the fourth and fifth tests are preparing to start.

KANSAS—A Burbank sand pool was opened near Arkansas City, Cowley County. An outpost 1¼ miles northwest of the Stoltenberg pool, Ellsworth County, was completed as an Arbuckle lime producer, while an outpost 1 mile southwest of Stoltenberg failed to find pay and was abandoned. The Bemis field, Ellis County, was extended ¼ mile eastward, and the Blue Hill pool in the same county also was extended ¼ mile eastward.

OKLAHOMA—A Pottawatomie County discovery well was completed, the second pool opener in that county in successive weeks. A gas pool was opened in Okfuskee County. A wildcat in Pontotoc County was showing both oil and gas. Oil and gas showings were found in shallow zones at two tests being drilled in the Cumberland area, Marshall County.

ILLINOIS—Production in Illinois hit a new peak last week for which Devonian lime wells in the Centralia field were responsible. Centralia produced an average of 55,810 bbl. per day in the week ending Saturday.

Completions in All Fields

(Week Ended June 8, 1940)

	Oil	Gas	Dry	Total	1940 total comp. to date	1939 total comp. to date
N. Y., Pa., and W. Va.	54	9	7	70	1,717	1,349
Ohio	11	5	5	21	457	404
Indiana	3	0	1	4	155	105
Kentucky	4	0	10	14	199	278
Illinois	67	0	4	71	1,543	1,490
Michigan	12	1	13	26	572	565
Kansas	36	1	9	46	687	500
Oklahoma	28	7	20	55	796	795
Texas:						
North Central Texas	34	1	13	48	1,397	1,043
West Texas	36	0	3	39	973	830
Texas Panhandle	10	1	2	13	265	170
East Texas	2	0	0	2	123	231
East Central Texas	5	0	2	7	117	115
East Texas Border	1	0	2	3	28	31
Gulf Coast Texas	20	1	1	22	578	612
Southwest Texas	33	1	17	51	1,020	1,057
Total Texas	141	4	40	185	4,501	4,089
North Louisiana	12	2	4	18	267	239
Gulf Coast Louisiana	11	0	5	16	405	242
Total Louisiana	23	2	9	34	672	481
Arkansas	0	0	0	0	89	106
Montana	5	0	0	5	72	58
Wyoming	0	0	1	1	64	41
Colorado	0	0	0	0	7	4
New Mexico	8	0	3	11	303	260
California	17	0	1	18	493	413
Total United States	409	29	123	561	12,327	10,938
Total previous week	394	25	105	524		
Week ended June 10, 1939	353	63	97	513		

Outstanding Fields—Highlights

(Week Ended June 8, 1940)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	19	38	7	3,007	1,377	40,000
Hull-Silk	28	46	5	2,872	266	7,006
Wasson	19	49	10	8,652	836	33,126
Ector County	22	67	14	12,382	2,153	49,988
Jones County	6	16	0	0	623	8,447
East Texas	4	9	2	100	25,993	396,697
OKLAHOMA						
St. Louis	3	19	1	200	883	29,150
Cement	1	21	0	0	307	7,260
KANSAS						
Bemis	1	7	1	350	319	8,100
Burnett	2	10	3	1,086	95	3,730
Silica	1	10	2	722	631	8,750
Trapp	2	13	7	1,536	536	10,650
NEW MEXICO						
Lea County	14	39	5	3,541	2,477	87,750
Eddy County	11	64	3	402	572	19,250
LA-ARK-TEX						
Cotton Valley, La. (deep)	1	2	0	0	161	14,950
Olla, La.	2	10	3	780	12	1,810
Golden Meadow, La.	2	13	4	562	88	12,610
MICHIGAN						
Allegan County	4	26	2	290	487	8,527
Kent County	3	15	5	380	318	14,151
CALIFORNIA						
Montebello	0	11	1	215	365	22,250
ILLINOIS						
Salem	40	112	22	20,267	2,019	243,171
Centralia	7	67	5	7,988	693	55,810
Louden	5	29	15	2,715	1,494	70,436
Other basin fields	26	231	25	7,348	2,112	77,124
Old fields	....	....	....	.....	.....	9,382
MISSISSIPPI						
Tinsley	0	6	0	0	55	9,800

Illinois, Indiana and Kentucky

By STAFF CORRESPONDENT

Centralia Production Gives Illinois a New Peak Output

MATTOON, Ill., June 10.—The production of Illinois reached a new high in the past week, with a daily average of 455,923 bbl. or 168 bbl. per day higher than the previous peak in the week ended March 16. In that week production averaged 455,755 bbl. per day.

In the peak of March 16 Salem was responsible. The peak last week can be credited to Centralia. In both instances it was Devonian lime production that caused the rise in crude output.

Salem last week produced 243,171 bbl.; Centralia, 55,810 bbl.; Louden, 70,436 bbl.; and other basin fields, 77,124 bbl. The old fields of the state fell off to 9,382 bbl. In the previous peak week Salem produced 291,024 bbl. per day; Louden, 75,186 bbl.; Centralia, 11,050 bbl.; and other basin fields, 68,860 bbl., while the old fields of the state produced 9,633 bbl. It will be seen that Salem fell off 47,853 bbl. and Centralia increased 44,760 bbl. in the new peak week, compared with the week ended March 16. The Centralia field is expected to exceed its production of last week, while Salem is definitely leveled off, with steady decline ahead of it.

Sixty-six new operations were started in the past week and 71 wells were completed, 67 of which were oil wells with a total initial production of 37,318 bbl. The largest new well was W. C. McBride, Inc.'s No. 8 Carson, an extension well in Section 35-2n-1w, which flowed at the rate of 10,114 bbl. a day for a 7-hour period.

New wildcat operations announced include Carter Oil Co.'s No. 1 Cobb, C SW SE Section 10-13n-7e, Coles County, a rig up; Kingwood Oil Co.'s No. 1 Danks, NW SE NE Section 5-5n-5e, Clay County, rig up; C. E. Baldwin and others' No. 1 Daiber, NE SE NE Section 23-5n-6w, Madison County, a location for a Devonian lime test; W. S. Tatum's No. 1 Schrage, SE SE NW Section 17-3n-4e, Clinton County, moving in rotary for a Devonian lime test; C. F. Poland's No. 1, SE SW SE Section 10-2n-3w, Clinton County, moving in for a Devonian lime test; and Yager & Brown's No. 1 Steffens, NW NW NE Section 1-1n-2w, Clinton County, a Devonian test, drilling at 765 ft.

Ames & Hicks' No. 1 Brown, on the Centralia townsite in Marion County was being completed as the week opened. It was then producing 7 bbl. per hour on the swab from Trenton lime at a total depth of 4,067 ft., or about 1,000 ft. below the Devonian lime pay.

It is reported that Paul Rossi will try for Trenton lime production in a test on the Brooks lease in Section 29-2n-2e, in the Salem field in Marion County.

It is said that Gulf Refining Co.'s No. 1 Community Buehler in the Centralia field produced about 87,000 bbl. in 14 days, or at the rate of 6,214 bbl. per day. Shell Oil Co., Inc., and Adams Oil & Gas Co. own interests in this property.

Following were the completions of the past week, the initial production representing 24 hours unless otherwise given:

Marion County

In Marion County R. E. Angle and others' No. 1 Zollar, NE SE NE Section 20-3n-2e, was a failure in the Devonian lime which was topped at 3,751 ft., and was drilled down to Grand Tower lime at 3,802-12 ft., where water broke in. The hole was bottomed at 3,823 ft., and abandoned. It had no showing of oil in any of the Marion County pays.

In Township 2n-2e, northern part of the Salem field, Texas Co.'s No. 32 E. Jett, SW SE SW Section 16, Devonian lime pay at 3,490-3,522 ft., acidized with 5,000 gal., flowed 1,795 bbl. Texas' No. 14 W. Martin, SW SW SE Section 17, pay at 3,455-85 ft., acidized with 5,000 gal., flowed 1,150 bbl. Kingwood Oil Co. and Bell's No. 25 Shanafelt-A, NW NW NE Section 20, pay at 3,419-24 ft., 5,000 gal. of acid, and re-acidized with 5,000 gal., flowed 576 bbl. Cumberland Oil Co.'s No. 4-B M.&I. R.R., NW NW NW Section 21, pay topped at 3,436 ft., total depth 3,497 ft., flowed 298 bbl. Magnolia Petroleum Co.'s No. 49 W. O. Chitwood, SE NE SW Section 28, pay at 3,455-92 ft., 4,000 gal. of acid, flowed 965 bbl. Ohio Oil Co.'s No. 31 Lloyd, NW NW SE Section 28, pay at 3,478-3,503 ft., 3,000 gal. of acid, flowed 269 bbl. Texas' No. 23 J. Chapman, SE cor. NW NE SW Section 28, pay at 3,448-89 ft., 5,000 gal. of acid, flowed 100 bbl. Texas' No. 14 F. Lee, NW SE SW Section 28-2n-2e, pay at 3,410-50 ft., 5,000 gal. of acid, flowed 1,395 bbl. Texas' No. 21 R. Friederich, SW NW NW Section 29, pay at 3,485-3,525 ft., 5,000 gal. of acid, flowed 620 bbl. Texas' No. 29 W. Friederich-A, NW NW SW Section 29, Devonian pay at 3,380-3,428 ft., 5,000 gal. of acid, flowed 665 bbl. Texas' No. 30 W. Friederich-A, SE SE NE Section 30-2n-2e, best pay at 3,455-76 ft., 5,000 gal. of acid, flowed 1,558 bbl. Texas' No. 9 L. Maxwell-B, SW NE SE Section 30, pay at 3,390-3,428 ft., 5,000 gal. of acid, flowed 2,100 bbl. Texas' No. 10 L. Maxwell-B, NE NE SE Section 30-2n-2e, pay at 3,390-3,430 ft., 5,000 gal. of acid, flowed 1,021 bbl. in 8 hours. Texas' No. 17 T. Stroup, SW SW SE Section 30-2n-2e, pay at 3,341-91 ft., 5,000 gal. of acid, flowed 1,910 bbl. I. D. Lain's No. 12 Dempsey, SE NE SW Section 31, pay at 3,381-3,417 ft., 5,000 gal. of acid, flowed 1,392 bbl. Texas' No. 19 E. Tate, NE SE SW Section 31, pay at 3,390-3,421 ft., 5,000 gal. of acid, flowed 1,805 bbl. Texas' No. 32 K. Wayman, NW NW NE Section 31, pay at 3,350-91 ft., 5,000 gal. of acid, flowed 1,513 bbl.

In Township 1n-2e, the southern portion of the Salem field, the completions were in pays above the Devonian. Texas Co.'s No. 1 W. Carr-D, NE cor. SE NW SW Section 6, McClosky lime 2,078-90 ft., 2,000 gal. of acid, pumped 203 bbl. Ohio Oil Co.'s No. 15 R. L. Murray, NW NE SW Section 7, Benoist sand at 1,838 ft., shot with 40 qt. at 1,847-61 ft., pumped 120 bbl. Texas Co.'s No. 7 W. Carr-B, NE NE NE Section 7, McClosky pays at 1,926 to 1,980 ft., at intervals, acidized with 3,000 gal., it flowed 455 bbl. Texas' No. 7 M. A. Tate, C N½ SW NE Section 7-1n-2e, Fredonia pay at 1,952-75 ft. and 1,982-88 ft., acidized with 2,000 gal., pumped 210 bbl. Texas' No. 6 Fyke, SW SW SE Section 8 McClosky lime pays at 2,076 to 2,127 ft., acidized with 3,000 gal., pumped 147 bbl.

Centralia Field

In the Marion County side of the Centralia field, in Township 1n-1e, Scott & Carey's No. 1 Langenfield, Lot 17, Block 2, Home Terrace, Section 7, Devonian lime pay at 2,916-27 ft., 1,000 gal. of acid, flowed 380 bbl. A. T. Atwood's No. 1 Dace, Lot 6, Block 12, West View, Section 7, Devonian pay at 2,925-29 ft., 1,000 gal. of acid, pumped 100 bbl. of oil and 325 bbl. of water. Scott & Carey's No. 1 Keenan, Lot 2, Block 2, West View, Section 7, Devonian lime top at 2,861 ft., drilled to 2,936 ft. without finding any pay, dry and abandoned. J. D. Ethridge's No. 1 Bealer, Lot 25, Block 10, West View, was abandoned at 1,150 ft.

In the Clinton County side of the Centralia field, W. C. McBride, Inc.'s extension well, No. 8 Carson, C W½ NE SE Section 35-2n-1w, was acidized with 5,000 gal. in Devonian lime at 2,894-2,913 ft. Its flow by hours was as follows: 395 bbl. the first hour; shut in 2 hours; then 410 bbl., 356 bbl., 439 bbl.; pinched in over night, then by hours 440 bbl., 454 bbl., and 459 bbl. Thus, it averaged 421 bbl. per hour in the 7 hours it was opened. The well was shut in for lack of storage. It is rated as a 10,000-bbl. well and extends the Devonian lime pay northerly. Shell Oil Co., Inc.'s No. 11-C Criley is just 1,320 ft. south of the McBride well. It had Devonian top at 2,828 ft. and at a total depth of 2,888 ft. was not an encouraging prospect. Samedan Oil Co.'s No. 1 F. Hanseman, NW NW SE Section 1-1n-1w, was acidized with 5,000 gal and flowed 1,437 bbl. in 16 hours, and was still being tested. Brookside Oil & Gas Co.'s No. 7 C.B.&Q.R.R., NW SW NE Section 1, was completed in Devonian pay at 2,875-85 ft., acidized with 3,000 gal. It flowed 2,400 bbl.

Gulf Refining Co.'s No. 1 A. Kaelin, NE cor. SE NW SW Section 12-1n-1w, was flowing 356 bbl. of oil and 160 bbl. of water per day through wide-open tubing, and Shell's No. 9-C Buehler, C W½ NE NW Section 12, flowed 1,469 bbl. in 12 hours, naturally. Neither well was a completion.

Gulf completed No. 21 S. Buehler, C W½ SE NW Section 12-1n-1w. It had pay at 2,904-19 ft., and flowed 1,498 bbl., naturally, in 12½ hours, but when acidized with 3,000 gal. it flowed 2,168 bbl. in 24 hours through casing and tubing.

In Coles County Carter Oil Co.'s No. 1-A James Seaman, SE NE SW Section 35-12n-7e, was completed in McClosky lime pay at 2,002-27 ft. It was acidized with 2,000 gal. and then with 4,000 gal., and flowed 621 bbl. in 24 hours. On the following day it settled to 100 bbl. per day, opening the first production in the county.

Fayette County

In Fayette County Stewart's No. 1 Gordon, SE SW SE Section 35-9n-3e, was shot with 40 qt. in Cypress sand at 1,515-49 ft., and pumped 80 bbl. per day. Stewart's No. 2 Gordon, SW SE SE Section 35, pumped 60 bbl. per day without a shot from Cypress sand at 1,521-33 ft.

In Township 8n-3e, Louden field, Carter Oil Co.'s No. 3 F. Doty, SW NW NE Section 13, shot with 20 qt. at 1,523-29 ft., Cypress sand, pumped 128 bbl. Carter's No. 3 F. Kline, SW SW NW Section 13, shot with 20 qt. at 1,512-20 ft., pumped 414 bbl. Carter's No. 3 E. Phillips, NW NW SW Section 13, 30-qt. shot at 1,505-14 ft., pumped 240 bbl. Carter's No. 4 D. Doty, SE SE NE Section 14, 60-qt. shot at 1,480-1,514 ft., pumped 480 bbl. Carter's No. 1 W. Logue, SW SE SW Section 23, 20-qt. shot at 1,417-79 ft., pumped 168 bbl. Carter's

(Continued on Page 96)

INDIANA

EVANSVILLE, Ind., June 10.—Three oil wells were completed in Gibson County and a dry hole in Jay County in the past week. New initial production was only 297 bbl.

Spencer County

In Spencer County Snell and others' No. 1 Bretz, SE cor. NW SW Section 3-7s-6w, rigging up materials. C. J. Williams, NE NE NW Section 6-8s-6w, drilling at 800 ft., in a hole full of water. Blosser and others' No. 1 Harvey, NW cor. SW NW Section 4-8s-6w, sand at 622 ft., showing of gas in a hole full of water; bailing. Kentucky Natural Gas Co.'s No. 1 Wirtheimer, C W½ SW SE Section 29-7s-6w, sand at 641-46 ft., 2,600,000 cu. ft. of gas; casing split; crew performed a squeeze job, and waiting for cement to set. Damron Brothers' No. 1 Boyd, NE cor. SW SE SE Section 30-7s-6w, drilling at 840 ft. Hendrickson and others' No. 1 Williamson, CWL SW NW Section 31-7s-6w, top of Chester series 754 ft., drilling at 880 ft. with no showing. Mecca Oil Co.'s No. 1 Seay, NW NW SW Section 32-7s-6w, Chester series at 750 ft., drilling at 840 ft. Lambert and others' No. 1 Hodges, NW NW NE Section 5-7s-7w, drilling at 530 ft. Snell and others' No. 2 Biggerstaff, NE cor. SW SW SE Section 6-7s-7w, set 12-in. pipe at 75 ft. Damron Brothers' No. 1 Carder, NE NE NW Section 31-5s-5w, shut down at 780 ft.

Posey County

In Posey County O. F. Kelly and others' No. 2 Hahn, NE NW SW Section 1-7s-12w, total depth 1,896 ft., plugged back to 1,880 ft.; drilling out cement; H. K. Riddle and others' No. 1 Greathouse, NE NE NE Section 13-7s-15w, rig up. Brown, Ryan and others' No. 1

(Continued on Page 102)

Texas and Louisiana Gulf

By
NEIL WILLIAMS

Matagorda County Adds Two Pools; Lolita Field Extended

HOUSTON, Tex., June 10.—Interest in the Gulf Coast district was centered on the Blessing area, Matagorda County, where Texas Co.'s No. 1 A. P. Pierce looms as the discovery well of a new distillate field. Sand with a gas and distillate odor was cored at 8,231-8,300 ft., and sand and sandy shale with a gas odor at 8,300-20 ft. The crew is coring ahead in sand below 8,494 ft., following an 8-minute drill-stem test at 8,267-8,320 ft. which recovered 500 ft. of fluid of which 60 per cent was distillate and the balance wash water. Working pressure built up to 300 lb. This is the second sand section logged, as drill-stem testing the previous week recovered 200 ft. of distillate and 400 ft. of distillate-cut drilling mud on a 7-minute drill-stem test at 7,914-31 ft. The well is about 1½ miles southwest of Blessing, in the H.&G.N. Survey.

In the Wilson Creek field in Matagorda County, Barnsdall Oil Co. is preparing to complete No. 1 Stoddard, which in the previous week blew out and ran wild for several hours, after coring into a soft sand section at 10,298 ft., the total depth. The blowout caused the drill pipe to stick and the well flowed amber-colored distillate after the pipe was pulled 180 ft. off bottom. Connections are being installed and the well will be completed through the drill stem. Shut-in working pressure was 2,600 lb.

Barnsdall Oil Co.'s No. 1 Lazarus, about 1½ miles west of the discovery well of the recently opened Lolita field, Jackson County, has been recompleted through perforated casing at 5,924-29 ft., and the well is flowing 156 bbl. per day through a 7/64-in. choke, with tubing pressure 550 lb. and casing pressure 800 lb. Location for four wells were made in the field and additional activity is anticipated as Magnolia Petroleum Co. began laying a 6-mile 6-in. welded oil line from the field to the company's pump station in the West Ranch field. The new locations included Magnolia Petroleum Co.'s No. 1 O. G. Hinshaw and No. 1 Mitchell, in the S. F. Austin Survey 5, and No. 1 Four-Way ranch, in the I.&G.N. Survey, Block 1, Section 11. Offsetting the discovery well, Wellington Oil Co. is drilling below 1,500 ft. in No. 2 L. Ranch Co., Block 1, Section 11, I.&G.N. Survey.

An important extension to the Vicksburg pay was reported in the Thompson field, Fort Bend County, with the completion of Gulf Oil Corp. and Humble Oil & Refining Co.'s No. 1 Scanlan. Sand showing oil was cored at 7,884-7,901 ft., and the well was completed through perforated casing at 7,891-7,901 ft., for an initial production of 18 bbl. per hour, flowing through a 7/64-in. choke, with tubing pressure 1,390 lb. and shut-in casing pressure 1,560 lb. The well is about 1,500 ft. east of production on the east bank of the Brazos River in the T. Barnett Survey. It is a few feet structurally lower than the nearest producers, and the completion will result in many wells being drilled along the east and west banks of the Brazos River.

Stanolind Oil & Gas Co.'s No. 1 Garrow, a southeast outpost to the Martha field, Liberty County, has been completed for a small producer to extend production about 1,300 ft. The well was drilled to 9,820 ft., and after several production tests at various horizons below the normal pay failed, the well was plugged back and completed through perforated casing at 8,067-74 ft., for an initial production of 24 bbl. in 12 hours, flowing through a ¼-in. choke. Casing pressure was 1,450 lb. and tubing pressure 450 lb.

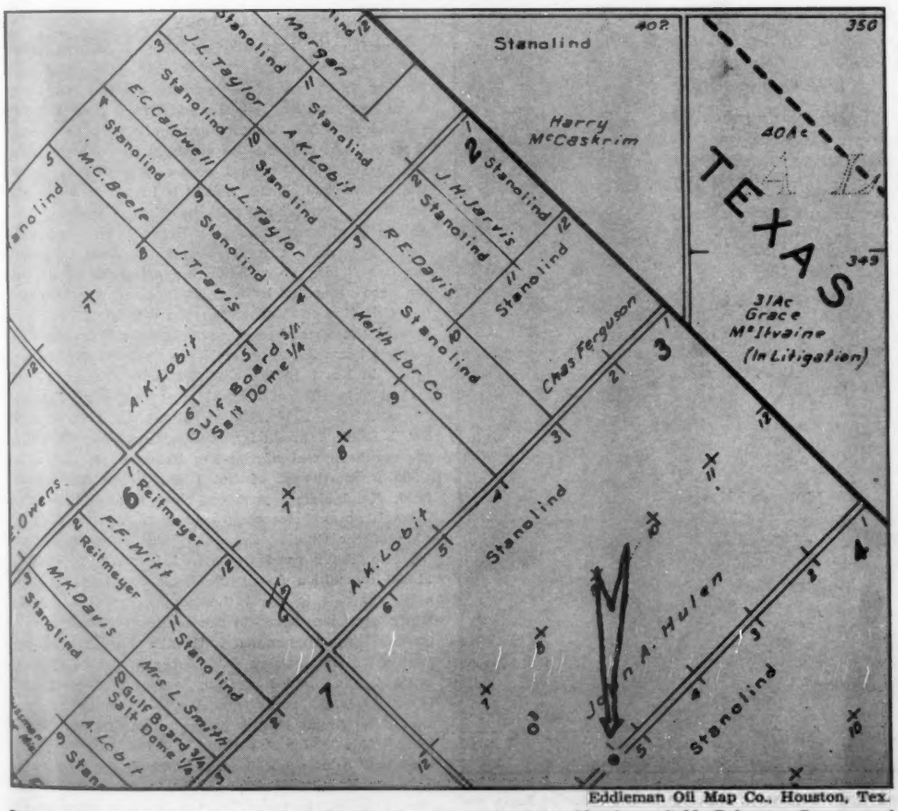
On the north flank of the Esperson dome, Liberty County, General Crude Oil Co. is making a series of production tests in No. 20 Davis. The well was drilled to 9,734 ft., and is being retested after the first test at 7,466-98 ft. recovered 3,850 ft. of salt water and no gas pressure. The well is about 500 ft. northeast of the company's No. 9 Davis, which blew out and caught fire several weeks ago.

East of the Hankamer field, Liberty County, Hebert, Smith, and Titanic Oil Co.'s No. 1 E. W. Boyt is preparing to test through perforated liner at 8,770-8,807 ft. This well was drilled to 9,312 ft., and logged several encouraging showings, but due to mechanical trouble no successful test has been made. It is in H.&T.C. Survey 9.

Locations for two wells were made in the Alta Loma field, Galveston County, where Stanolind Oil & Gas Co.'s No. 1 J. A. Hulen continues to flow at the rate of 801 bbl. of fluid per hour, of which 60 per cent is salt water and the balance pipe-line oil. The well is flowing through a ¾-in. choke on one flow line and a 40/64-in. choke on another flow line. The percentage of salt water increased about 30 per cent during the week. The new locations are No. 2 John A. Hulen, 1,350 ft. southwest of the discovery well, and No. 3 John A. Hulen, a northwest offset, both in the A. Brigham Survey. It is reported that the wells will be drilled simultaneously so that the gas pressure in the discovery well can be decreased and completed in the conventional manner. The discovery well was completed with the drill stem in the hole, after the blowout, while coring at 9,156-66 ft.

In the Ogburn area, Harris County, Joyce Richardson's No. 1 Emil Marks is nearing the contract depth of 7,500 ft., at which time casing is expected to be cemented preparatory to testing several sand sections that have shown possible production on drill-stem tests. A 27-minute drill-stem test at 6,937-48 ft. recovered 5,900 ft. of fluid of which 50 per cent was high-gravity oil and the balance basic sediment and salt water. Seven feet of oil sand was recovered in a core at 6,989-99 ft., and a 25-minute drill-stem test recovered 180 ft. of gas-cut mud and 270 ft. of salt water.

Production tests were scheduled to be made on two important outpost wells in the Anchor field, Brazoria County. Sun Oil Co.'s No. 1 Morris Stern, about 1 mile northeast of Humble Oil & Refining Co.'s No. 1 Mettler, was bottomed at 10,751 ft., and 7-in. casing cemented on bottom after an electrical survey showed possible production. About 1,300 ft. due south of production Humble Oil & Refining Co.'s No. 2 Mettler is bottomed at 10,501 ft., with 5½-in. casing cemented on bottom. Details of the electrical surveys were not available.



Eddleman Oil Map Co., Houston, Tex.

Stanolind Oil & Gas Co.'s No. 1 J. A. Hulen, the discovery well of the Alta Loma field, Galveston County, and locations for two new wells

Louisiana Coast

Along the Louisiana coast, interest was centered on the Lake Boeuf prospect, in La Fourche Parish, where Gulf Refining Co. was making a series of production tests in No. 1-B Bowie Lumber Co. The well was drilled to 12,512 ft., but was plugged back to 12,287 ft., following an electrical survey which showed possible production from sands at 11,988-12,010 ft. and at 12,018-44 ft. Approximately 3,621 ft. of 5½-in. casing was cemented at 12,057 ft., and a 17-minute drill-stem test through perforated casing at 12,262-68 ft., recovered 300 ft. of drilling mud with the bottom 20 ft. slightly salty. The perforations were squeezed off and another test is being made. The well is on a geophysical prospect consisting of several thousand acres centering around Section 69-15s-18e.

In the same parish and located in the Labadieville

(Continued on Page 105)

California Field Report

North and South Basins Have Wildcats With Oil Showings

By
L. P. STOCKMAN

LOS ANGELES, Calif., June 10.—Two California wildcats, El Rey Oil Co.'s No. 1 Westmore land in the Rosecrans district of Los Angeles Basin and No. 1 West Slope of Tide Water Associated Oil Co. in the Pyramid Hills section of the San Joaquin Valley in Kings County, and No. 1 Core Hole of Republic Petroleum Co., an outpost in the Midway-Sunset field of Kern County, monopolized the spotlight during the past week. No. 1 Westmore land of El Rey Oil Co., which is between the Rosecrans and Potrero fields along the Newport-Beverly sheer zone, has been put on the beam and for the past few days has been pumping 120 bbl. of 32.5-gravity oil per day, cutting 5 per cent. Bottom of the hole is 9,063 ft. but the effective depth is 9,000 ft. as a cement plug was put in the bottom before the well was put on a pumping test.

No. 1 Westmore land may have found a new productive interval in Section 2-3-14. The well itself is somewhat of a disappointment due to its small initial and the failure to flow. Casing consists of a 7-in. water string that required two cement jobs to effect a satisfactory water shutoff and 425 ft. of 5-in. liner landed at 9,000 ft. and including 366 ft. of perforated pipe. The fluid level was found at 7,200 ft., and the hole contains 8,573 ft. of 2½-in. tubing, with a packer at 8,380 ft. The well may be an edge well in a new field. It is not believed to have any connection with either the Rosecrans or Potrero fields, but will undoubtedly lead to additional drilling. It is in an area that has been prospected for 20 years. Within a radius of 2 miles 19 wildcats have been drilled, but none of these showed any commercial oil. One of the previous tests was carried below 6,500 ft. Topography consists of a relatively flat country with a series of low rolling-land swells in the general area.

Pyramid Hills

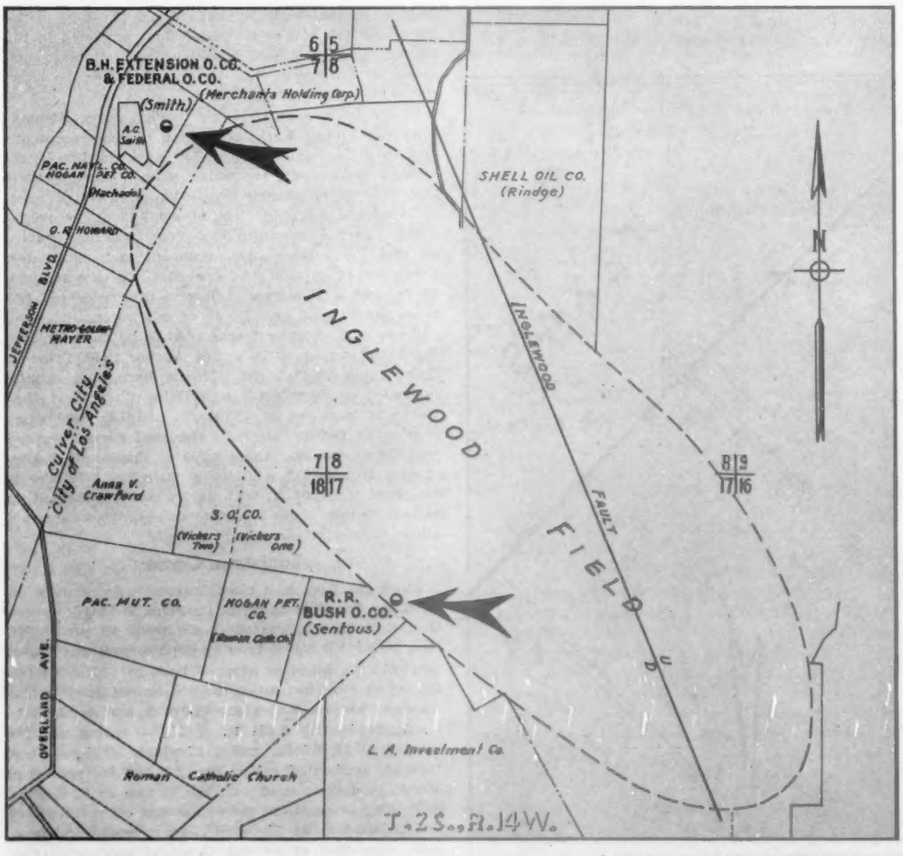
Tide Water Associated Oil Co. completed No. 1 West Slope in the Pyramid Hills area, pumping intermittently at the rate of about 20 bbl. of heavy oil daily. No. 1 West Slope, in Section 20-24-18, Kings County, in the west end of the San Joaquin Valley, was drilled to 2,051 ft. but was plugged back to 945 ft., from which depth it is producing. A string of 6⅝-in. casing was set at 850 ft., which leaves 95 ft. of formation to draw from. The well has been bothered by a running sand, therefore pumping operations have been rather irregular. Because of the condition of this well it is too early to venture an opinion as to the possibility of a commercial accumulation of heavy crude oil. The oil sand cored is in the Temblor, which usually yields a high-gravity crude and a good volume of gas. No. 1 West Slope was originally drilled as a core hole for a structure survey. The Getty and Pacific Western interests, which recently negotiated an operating agreement with Tide Water Associated Oil Co., together hold a 25 per cent interest in the discovery. It will require at least two more wells to determine whether this discovery has commercial possibilities.

Midway-Sunset

Republic Petroleum Co. appears almost definitely assured of extending the productive limits of the Midway-Sunset field of Kern County as its No. 1 C. H. in Section 18-32-23 has cored 67 ft. of oil sand, interspersed with shale. The bit was still in a sandy shale body at last report. Republic Petroleum Co. holds 1,320 acres adjacent to the well and of this total 320 acres are held in fee. The company holds all of Section 18-32-23 and the west half of Section 19-32-23, and Chanslor-Canfield Midway Oil Co. owns practically all of the surrounding acreage in fee. No. 1 C. H. of Republic Petroleum Co. was started as a core hole, as was the case with No. 1 West Slope of Tide Water Associated Oil Co. in the Pyramid Hills section of Kern County, but when the bit hit oil sand at 1,838 ft. the well ceased to be a core hole and became an outpost oil test. The sand appears to be sufficiently saturated to justify the expectation of commercial production. Other oil sands in the Midway-Sunset field around this approximate depth produce oil ranging from 12.6° to around 14.9°, A.P.I. In the north end of the Midway section of the Midway-Sunset field Joseph McDonald completed No. 20 in Section 26-31-22, pumping 110 bbl. of 14.9-gravity oil, cutting 5 per cent. from a depth of 1,532 ft. This well is producing from 152 ft. of formation.

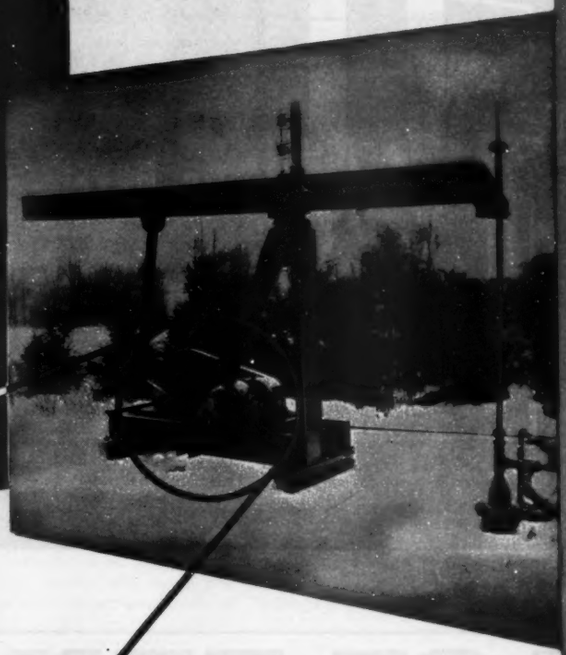
Greeley

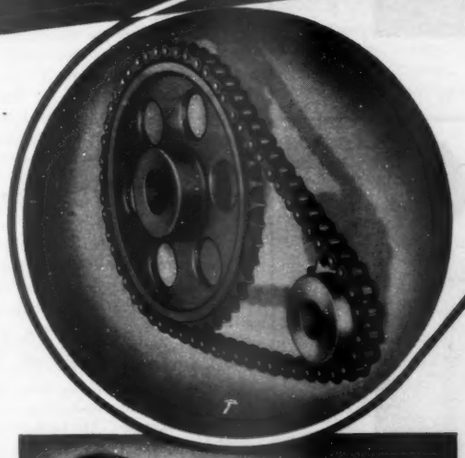
Superior Oil Co. completed No. 1 Merrill in the northwest end of the Greeley field of Kern County, flowing 1,320 bbl. of 36.2-gravity oil and 960,000 cu. ft. of gas per day from the Rio Bravo zone at 11,500 ft., and extended the northern limits of production of the field and brought the northern limits to less than a mile south of the most southerly production in the Rio Bravo field. No. 1 Merrill is in the SE of Section 1-29-25, and Superior Oil Co. has three producing wells on the Ruhl lease in the Rio Bravo field in the same section. Because there is less than a mile separating the two fields, the question has arisen as to whether they are separated by a cross fault or whether there is a thin line connecting the two districts. The reduction of the space between the two fields is of special interest because Superior Oil Co. found a faulted condition in No. 1 Helbling in the same section, 1-29-25, and abandoned that outpost after failing to find any oil sand. No. 1 Helbling is about 1,000 ft. west of No. 1 Ruhl, a producing well of Superior Oil Co. in the southern end of the Rio Bravo field, and about 4,500 ft. northwest of No. 1 Merrill in the Greeley field. No. 1 Merrill produced clean crude oil and thus there is no evidence of edgewater to indicate that the edge of the Greeley field had been reached. Top of the Rio Bravo sand was cored in No. 1 Merrill at 11,290 ft., which forms the basis for another possibility, as this is about the depth at which the Rio Bravo zone was cored in the southern end of the Rio Bravo field. Approximately 1 mile southeast of production in the Greeley field Superior Oil Co. is drilling ahead in No. 1 Brandt in Section 28-29-26 at 9,800 ft., and should reach the depth at which the pay should be found if it is present beneath the Brandt lease. Tide Water Associated Oil Co. and Texas Co. each hold a lease on 80 acres immediately west of the 160-acre Brandt lease of Superior Oil Co., SE Section 28-29-26. Standard Oil Co. holds a lease on the north half, 320 acres, of Section 28-29-26, and practically all of Section 30-29-26. Approximately 1½ miles

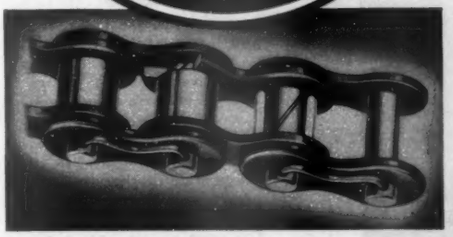


Federal Oil Co. has started a deep test on the south flank of the Inglewood structure in Los Angeles Basin and R. R. Bush Oil Co. has started another at the extreme western end of the field. Both are scheduled to be drilled into the Miocene

MORSE ROLLER CHAIN







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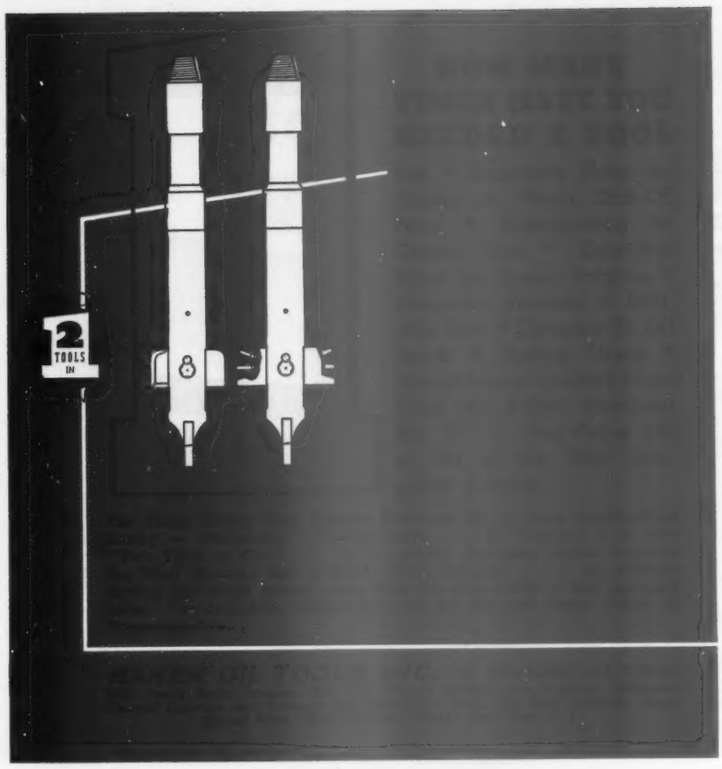

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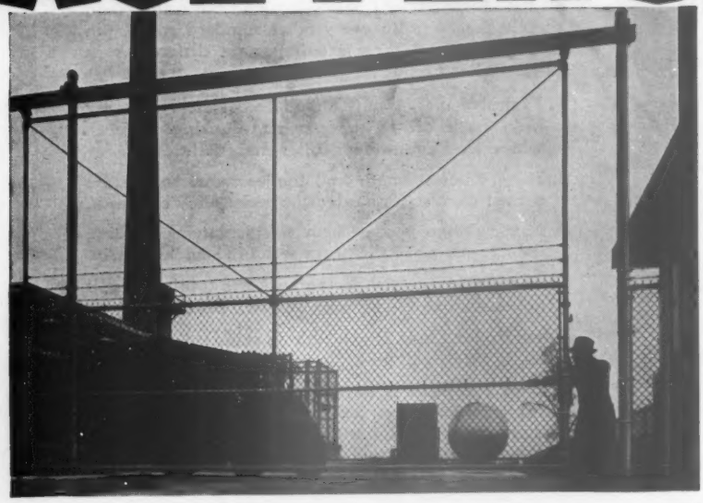

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southeast of No. 1 Brandt Superior Oil Co. drilled three wildcats, which were abandoned as unproductive. One of this trio of wildcats, No. 9 Kern County Land, produced an initial of 500 bbl. a day, and produced for several days before it went to water and died.

Rio Bravo

In the extreme northwestern end of the Rio Bravo field Superior Oil Co. cemented a water string in No. 3-1 Osborn, in Section 28-28-25, after picking up an oil sand above 11,300 ft. This well is the most westerly and northerly in the field and tends to indicate that the productive limits may extend into or beyond Section 21-28-25. This would mean that the Rio Bravo field might undergo extensive development due to the large number of relatively small holdings in Section 21-28-25 and other adjacent sections. The outer limits of production have not yet been determined in the northwest end of the Rio Bravo field, and Superior's No. 1 Burner in Section 27-28-25, located east of No. 3-1 Osborn, is the highest well structurally in the field. No. 3-1 Osborn, if completed as a large well, would definitely prove up the Crites lease of Union Oil Co. in Section 28-28-25 as productive and give that company several locations.

Barnsdall Oil Co., Western Gulf Oil Co., Superior Oil Co., General Petroleum Corp., and Tide Water Associated Oil Co. may all have one or more locations ready for work. This section is split up into 16 properties and Section 22-28-25 to the east is split up into 17 parcels. Section 20-28-25 is also split up into a number of relatively small parcels. This indicates that if the northwestern limits of production extend as far out as present indications point, a competitive drilling program may develop wherein it will not be possible to maintain the present program of one well to each 20 acres.

Within the past few days Union Oil Co. completed No. 45-34 Kern County Land in Section 34-28-25, flowing 1,629 bbl. of 39.9-gravity oil and 1,608,000 cu. ft. of gas daily from the Rio Bravo zone, with bottom of the hole at 11,470 ft. Top of the productive Rio Bravo sand was cored at 11,272 ft. and a 7-in. water string was cemented at 11,265 ft. This well is capable of greatly exceeding its allotted initial, as it is flowing through a 24/64-in. bean and shows a tubing pressure of 1,475 lb. and a casing pressure of 1,800 lb.

Coalinga

In the Northeast Coalinga field of Fresno County No. 1-20-B Ewing of Amerada Petroleum Corp. was finished, flowing 3,200 bbl. of clean 28.3-gravity oil and 1,250,000 cu. ft. of gas per day from the Gatchell sand, with bottom of the hole at 8,203 ft., and No. 68-19-B on fee-owned acreage owned by Standard Oil Co., was completed flowing 1,000 bbl. of 28.4-gravity oil and 750,000 cu. ft. of gas daily from the Gatchell zone with bottom of the hole at 8,270 ft. The latter well is just getting under way and may show a much higher production. All initials in this field are computed and no well is allowed to produce for the initial 24 hours without restraint. This is done in order to keep field production down to the allotment. Wells are given potential ratings by Umpire Vander Leck, based on performance and bottom-hole pressures. No. 1-20-B Ewing was finished with 8,140 ft. of 2½-in. tubing with a packer at 8,137 ft. and a flow valve at 7,856 ft. A total of 45 ft. of 2-in. tubing was lost in the bottom of the hole, but this is not apparently bothering the well. No. 68-19-B of Standard, in Section 19-19-16, was finished with a 7-in. water string cemented at 8,073 ft. and a blank 5-in. liner that was later gun-perforated at 8,105-15 ft. Union Oil Co., which suspended drilling operations a few weeks ago on No. 55-18 Cook in Section 18-19-16, because of a lack of available crews, resumed work late last week and is drilling at 6,290 ft.

Standard Oil Co. has staked location for No. 68-7-B fee on property located about 1,500 ft. northwest of present production in the Northeast Coalinga field and an early spud is scheduled. This outpost is north of the productive Husong lease of Superior Oil Co. and northeast of a 160-acre lease held by Richfield Oil Corp. The productive limits of the Northeast Coalinga field have not been defined, and while the outer limits are still open Bandini Petroleum Co. is believed to have defined the western limits, as its last well in Section 18-19-16, showed a relatively small production from a thin section of the Gatchell sand. In the old West Coalinga field, Section 30 Oil Co. completed No. 7 in Section 30-19-15, pumping 22 bbl. of 13.6-gravity oil, cutting 6 per cent daily, from a depth of 1,206 ft. In the old East

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	June 2		May 26			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	144,217	247,520
Fuel oil	.....	.....	.....	.....	188,938	884,491
Diesel and gas oil	.....	.....	.....	.....	.....	163,501
Gasoline	151,683	21,669	.....	.....	1,284,078	1,348,513
Kerosene	.....	.....	.....	.....	.....	122,200
Foreign exports—						
Crude oil	961,365	137,338	.....	.....	6,004,485	6,671,626
Fuel oil	223,093	31,870	199,784	28,541	3,385,519	3,710,026
Diesel and gas oil	121,131	17,304	28,111	4,016	2,733,149	2,736,999
Gasoline	47,723	6,818	143,403	20,486	2,109,640	3,266,207
Kerosene	93,851	13,407	47,069	6,724	543,880	621,586
Lubricants	.....	.....	1,336	191	79,134	42,034
Coastwise-domestic—						
Crude oil	260,074	37,153	115,239	16,463	4,157,664	5,298,701
Fuel oil	431,074	61,582	480,747	68,678	6,764,583	4,009,095
Diesel and gas oil	21,880	3,126	39,222	5,603	1,220,030	1,111,602
Gasoline	265,183	37,883	215,231	30,747	6,833,611	6,060,608
Kerosene	15,212	2,173	13,943	1,992	244,091	173,282

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	.....	.....	.....	.....	67,840	61,281
Diesel and gas oil	.....	.....	.....	.....	281,260	69,550
Asphalt	66,620	9,517	.....	.....	240,888	280,447
Lubricants	.....	.....	.....	.....	11,151	11,184
Foreign exports—						
Crude oil	.....	.....	111,423	15,918	1,598,957	2,399,127
Fuel oil	131,207	18,744	90,802	12,972	877,618	1,315,973
Diesel and gas oil	35,581	5,083	66,223	9,460	1,210,261	895,530
Gasoline	19,863	2,838	38,288	5,470	1,083,589	1,296,429
Kerosene	.....	.....	14,529	2,076	217,068	305,252
Asphalt	.....	.....	.....	.....	.....	6,919
Lubricants	64,750	9,250	39,147	5,592	258,437	285,653
Other finished oil	.....	.....	113	16	619	352
Coastwise-domestic—						
Fuel oil	119,383	17,055	65,241	9,320	2,510,412	2,445,892
Diesel and gas oil	20,255	2,894	.....	.....	478,976	406,753
Gasoline	126,720	18,103	68,132	9,733	2,826,189	2,966,608
Kerosene	14,296	2,042	.....	.....	249,629	291,708

Coalinga field Shell Oil Co., Inc., is still engaged in cleaning out No. 45-2, a recent completion in Section 2-20-15, at 3,745 ft. This well offsets an excellent flowing well completed by Tide Water Associated Oil Co. several weeks ago.

Montebello

Kern Oil Co. recompleted No. 25 Monterey in the Montebello field of Los Angeles County and returned it to production, flowing 1,820 bbl. of clean 36.3-gravity oil and 2,900,000 cu. ft. of gas per day from La Merced and 8-3 zones. Bottom of the hole is at 7,785 ft. and the large gas production is due to the seventh or upper La Merced zone being open at 7,420-7,510 ft. This is the best well completed or recompleted in the Montebello field in several months and indicates that the new 8-3 zone is highly productive, especially when produced in conjunction with upper zones. It is to the interest of operators in this field under conditions to establish as high a gas-oil ratio as possible as this will result in a larger allotment. After the allotment has been received it is then possible to pack off the seventh or upper eighth La Merced zone and produce from below this point. This results in a larger production of crude oil as the 8-3 zone and some parts of the 8-2 La Merced zone have lower gas-oil ratios. Texas Co. completed No. 4 Wilson, flowing 215 bbl. of clean 37.4-gravity oil per day from La Merced zone with bottom of the hole at 7,666 ft. This is a normal completion, but the well has a higher capacity as it is showing a tubing pressure of 750 lb. and a casing pressure of 800 lb. A recent check of conditions prevailing in the Montebello extension indicates that present known zones will begin to decline at a fairly rapid rate within a few months. A large part of the existing gas cap will have become depleted within the next 3 months if present practices are continued. Enforcement of the gas conservation law has reduced waste both physical and underground and has prolonged the field's life.

Wilmington

In the Wilmington field of Los Angeles Basin a Ranger zone completion, No. 2 Harbor of M. A. K. Petroleum Co., was brought in pumping 175 bbl. of 14.3-gravity oil, cutting 3 per cent, from 3,440 ft. This new well was finished with 325 ft. of gravel-wrapped liner landed at 3,438 ft. and perforated at 3,138-3,438 ft. A Terminal zone completion was No. 138 Offset of Union Pacific Railroad Co., flowing 581 bbl. of clean 29.6-gravity oil daily from 3,922 ft. This well was finished with a 10¾-in water string cemented at 2,490 ft. and a combination 5-in. and 7-in. liner landed at 3,917 ft. This combination liner consisted of 1,041 ft. of 7-in. and 433 ft. of 5-in. with the latter on the bottom. The cement job was through perforations at 3,472 ft. and perforations opposite the oil sand were at 3,474-3,525 ft., 3,545-83 ft., 3,598-3,709 ft., 3,729-3,838 ft. and at 3,853-3,917 ft.

Los Angeles Basin

Union Oil Co. completed an excellent well on the Austin lease in the extreme western end of the Dominguez field when No. 2 Austin was finished, flowing 1,675 bbl. of clean 31.2-gravity oil and 1,170,000 cu. ft. of gas per day from the eighth Callender zone with bottom of the hole at 7,470 ft. This new well is the most northwesterly producing well in the field and indicates that the Austin lease, which was signed a few months ago, will yield several additional producing wells. Union Oil Co. has already spudded No. 3 Austin

Refinery Cooling Tower

Repeat Order

Cool Water For Processing—regardless of weather

The Mid-Continent Petroleum Corporation installed an eight-cell, "low head," forced draft cooling tower in 1939 and ran it for five months in Summer, Fall and Winter service.

Performance was so satisfactory and the water so much cooler than obtained from natural draft towers that an order was placed for this ten-cell tower.

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and has staked location for No. 4 on the same property. Union has two producing wells on the Austin lease and R. E. Havenstrite has three good wells on the Larronde lease. Seaport Oil Co. found the oil sand in No. 1 Dasteel very tight and it remains to be seen whether commercial production can be developed. The Dasteel lease adjoins the Larronde lease on the south, and at 8,097 ft. No. 1 Dasteel does not show any kick. Allied Petroleum Corp., which has been trying to develop substantial production in No. 34 Signal, a deep well carried to the new zone at 10,640 ft., will probably

(Continued on Page 105)

Mid-Continent Refinery Crude Runs Decline in June

(Continued from Page 71)

Company and location—	Daily capacity	Av. dly. runs— June	May
Hurricane Pet. Corp., Overton	5,000	4,000	4,000
Hurricane Pet. Corp., Arp	3,300	(*)	(*)
Independent Ref. Co., Arp	5,000	3,000	3,000
Lynch Ref. Co. No. 1, Kilgore	3,000	2,000	2,300
Lynch Ref. Co. No. 2, Kilgore	4,000	2,100	3,100
Magnolia Pet. Co., Corsicana	5,000	3,500	3,500
McMurrey Ref. Co., Tyler	10,000	4,500	1,000
Premier Oil Ref. Co. of Texas, Greggtown	4,000	2,800	3,000
Talco Asphalt & Ref. Co., Mount Pleasant	8,000	6,600	7,500
Texas Co., Dallas	16,000	7,500	7,500
Tower Ref. Co., Overton	3,500	(*)	(*)
Total	90,300	43,000	41,900

*Shut down.

NORTH CENTRAL TEXAS

Baird Refining Co., Baird	1,500	950	950
Bryson Pipe Line & Refining Co., Bryson	2,000	1,000	1,000
Bryson Ref. Co., Inc., Bryson	1,500	1,200	(*)
Coleman Ref. Co., Coleman	800	650	650
Continental Oil Co., Wichita Falls	6,000	4,760	5,000
Cosden Pet. Corp., Graham	2,000	900	1,200
Falls Ref. Co., Wichita Falls	2,500	100	400
Gratex Ref. Co., Graham	500	300	300
Gulf Oil Corp., Fort Worth	8,000	6,500	6,500
Jacksboro Ref. Co., Jacksboro	400	100	100
La Salle Pet. Corp., Burkburnett	3,500	1,000	1,000
Magnolia Pet. Co., Fort Worth	7,500	5,750	5,750
Muenster Ref. Co., Muenster	1,800	600	800
North Texas Ref. Co., Gainesville	1,000	520	600
Ohio Oil Co., Fort Worth	5,000	3,750	3,750
Olney Oil & Ref. Co., North Olney	3,500	2,000	2,000
Panhandle Ref. Co., Wichita Falls	4,200	3,330	1,500
Panhandle Ref. Co., Lueders	1,500	900	850
Southland Ref. Co., Olney	500	200	200
Taylor Ref. Co., Taylor	1,000	600	600
Texas Pacific Coal & Oil Co., Caddo	800	450	450
Tucker Oil Co., Burkburnett	250	25	25
Tydal Ref. Co., Gainesville	2,000	600	600
W. T. Waggoner est., Vernon	5,000	3,000	3,000
Total	61,750	39,185	37,225

*Shut down.

SOUTHWEST TEXAS

Border Oil & Ref. Co., Sullivan City	1,000	500	500
Eggleston Oil Products Co., Three Rivers	1,000	750	750
Humble Oil & Ref. Co., San Antonio	5,000	3,750	3,750
Magnolia Pet. Co., Luling	8,000	5,000	5,000
Pettus Oil & Ref. Co., Pettus	1,000	850	850
Phoenix Ref. Co., San Antonio	2,000	1,000	1,000
Phoenix Ref. Co., Pettus	900	650	650
Pioneer Oil & Ref. Co., Somerset	2,000	750	750
Rado Ref. & Prod. Co., McAllen	800	500	500
Texas Co., San Antonio	5,000	4,000	4,000
Total	26,700	17,750	17,750

WEST TEXAS AND PANHANDLE

Aero Gas & Ref. Co., Fort Stockton	350	100	100
Coltex Ref. Co., Colorado	12,500	8,000	8,000
Cosden Oil Co., Big Spring	12,500	10,000	10,000
Danciger Refs., Inc., Pampa	6,500	5,000	5,000
Danube Oil Corp., Borger	800	400	400
Petrol Ref. Co., Lubbock	500	(*)	(*)
Gulf Oil Corp., Sweetwater	7,000	6,500	6,500
Howard County Ref. Co., Big Spring	2,000	600	600
Motor Fuels Corp., Levelland	4,000	2,900	3,200
Moutray Oil Co., Hawley	1,200	750	900
Onyx Ref. Corp., Hawley	2,000	1,800	1,800
Payward Ref. Co., Shamrock	1,000	450	500
Phillips Pet. Co., Borger	35,000	26,500	28,700
Post Refining Co., Rotan	800	350	350
Shamrock Oil & Gas Corp., Sunray	3,000	1,750	1,750
Shamrock Oil & Gas Corp., Lefors	1,600	850	850
Stamford Ref. Co., Stamford	450	300	300
Standard Oil Co. of Texas, El Paso	14,000	9,300	9,500
Star Light Ref. Co., Ballinger	1,000	500	500
Texas Co., El Paso	2,000	1,500	1,500
Texas Co., Amarillo	6,000	4,000	4,000
Western Ref. Co., Fort Stockton	1,000	800	800
Wickett Pet. Co., Wickett	3,500	800	800
Total	118,700	83,150	86,050

*Shut down.

North and East Texas

By D. H. STORMONT

Omohundro Extended North; 3 New Tests in Bonita Area

WICHITA FALLS, Tex., June 10.—Completion of a ½-mile-north outpost to Montague County's Omohundro area discovery well, together with showings of oil at a 4½-mile-northeast outpost, held attention as the week closed in North Texas. Continuing its drilling program in the recently opened Bonita area of Montague County, Sinclair Prairie Oil Co. has made locations for three new tests.

According to the opinion of a usually well-informed geologist, the Omohundro area of western Montague County may embrace 15,000 productive acres. This estimate is based on the fact that, although there are only two wells in the field, the Omohundro discovery area itself is on the flank of a large structure. Several miles west in eastern Clay County is the Walter Gant production on the Worsham lands. This field, structurally, is more than 400 ft. higher than the Omohundro area as correlated by important markers. Considering the Gant production as the top of the structure, the field is destined to extend as far to the west of the Gant production as the Omohundro area is to the east.

The production will not be from a single horizon. At present there are five known pay levels in the area. It is believed that with the advent of more drilling and a greater knowledge of subsurface conditions, Ordovician production, probably from the Simpson section, will be the most important in Montague County.

The second oil producer for the Omohundro area is British American Oil Producing Co.'s No. 1 Martin, Section 27, Block 4, H.&T.C. Survey, ½ mile north of the discovery well. It flowed 110 bbl. of oil in 2 hours through 1-in. tubing from a total depth of 5,695 ft. The well is making no water. Magnolia Pipe Line Co., which is taking the oil from the discovery well, is reported to have connected its line to the new producer.

Four and one-half miles northeast of the Omohundro area, and indicating production, is Sinclair Prairie Oil Co.'s No. 1 Milam, Block 54, Abel Beason Survey. On a drill-stem test at 5,666-76 ft., the well showed gas in 25 minutes and recovered 25 ft. of oil during the 45-minute test. Coring continued to 5,683 ft., where the test was last reported shut down to decide whether to run casing or drill deeper. The Omohundro field produces from a conglomerate at about 5,700 ft. The pay section of No. 1 Milam has not been paleontologically identified as above or below the 5,700-ft. producing section of the Omohundro area discovery well.

Locations at Bonita

With four producing wells completed in Sinclair Prairie Oil Co.'s Bonita field in Montague County, the company has staked locations for three new tests. No. 1 S. A. Admire estate is located in the R. V. Jones Survey, Abstract 1097, a south offset to the company's No. 2 Howard producer. The company's No. 1 M. M. Gilbert is located in the C. G. Bryant Survey, a west offset to Magnolia Petroleum Co.'s No. 1 Gilbert, which extended the field to the northeast. Sinclair Prairie's No. 1 Mrs. Pearl Lee is in the C. G. Bryant Survey and a south offset to Magnolia's producer.

New Field in Archer

Definite opening of a pool in Archer County was seen during the week at Walter Gant and associates' No. 1 August Vogtsberger, Block 3, German Emigration Lands Survey, about 7 miles south of Wichita Falls and in the northern part of Archer County. With casing set at 4,651 ft., the well was opened for a 1-hour flow and tanked 28 bbl. The following day it made 60 bbl. of oil in 4 hours and was then shut in. The hole is bottomed at 4,730 ft., plugged back from 5,351 ft. It is believed to be good for 150 bbl. daily.

One mile west of the 3,600-ft. Henderson field opened by Shell Oil Co., Inc., early this year in the extreme southwestern corner of Clay County, Deep Rock Oil Corp. staked No. 1 Sally Dycus, 467 ft. from the south and east lines of N½ Section 2602, T.E.&L. Survey. It is close to the Archer County line. Preparations have been made for immediate drilling.

Denton County Wildcats

Denton County, on the eastern rim of the southern part of the Fort Worth basin, has been given two wildcat tests. The Trentman Co. of Fort Worth made location for two 4,000-ft. tests in the south central part of the county. In addition an old temporarily abandoned hole in the western part of the county will be deepened. The Trentman Co.'s No. 1 Allen Madewell is located 466 ft. north and 400 ft. east of the northwest corner of the John Rogers Survey, Abstract 1084, but in the James Withers Survey, Abstract 1343, 6 miles south of the town of Denton. The company's No. 1 Dalbert Foster is located 1,398 ft. from the east line and 390 ft. from the north line of the John Rogers Survey, Abstract 1084, southeast of No. 1 Madewell. The company is reported obligated to start the first of the two tests by June 25.

Five miles west of the town of Denton, Seitz-Comegys-Seitz' No. 1 Fred Freeman, an old test abandoned at 3,507 ft., is being rigged up for deepening to 6,000 ft. It is 797 ft. south and 1,301 ft. east of SE cor. of George Orr Survey, Abstract 955, but in the M.E.P.&P. Survey, Abstract 1470. The test was drilled back in the early 1930's and was abandoned after 8-in. casing was cemented at 3,300 ft.

NORTH TEXAS COMPLETIONS

Archer County

Bert L. Ligon's Nos. 9, 10, 11, 12 O. T. Anderson, abandoned locations. Bert L. Ligon's No. 5 Dr. J. A. Little A, 4,325-78 ft., 730 bbl. N. H. Martin & Son's No. 5 T. B. Wilson, 1,604-07 ft., 15 bbl. Panhandle Refining Co.'s No. 9 F. C. Green C, 1,109-20 ft., 38 bbl. Peterson and others' No. 1 J. Schildknecht, 4,263-4,324 ft., 939 bbl. Petroleum Production Co.'s No. 6 L. F. Wilson McCrory, 4,308-34 ft., 1,150 bbl.

Clay County

Bridwell Oil Co.'s No. 4 F. Halsell A, 6,042 ft., dry. Costley and others' No. 1 Ed Bevering, 2,505 ft., dry. Costley and others' No. 8 W. J. McInnis A, 260-71 ft., 10 bbl. Costley and others' No. 3 W. J. McInnis C, 195-200 ft., 5 bbl. Perkins & Collum's No. 7 C. T. Taylor, 1,228 ft., dry. Staley's (W. B. Omohundro) No. 1 D. J. Percifield, 6,280 ft., dry.

Cooke County

Bridwell Oil Co.'s No. 5 J. Flusche A, 1,334-45 ft., 10 bbl. Bridwell Oil Co.'s No. 6 J. Flusche B, 1,178-90 ft., 60 bbl. Mudge Oil Co.'s Nos. 27, 28, 29 Alice Johnson, abandoned locations.

Foard County

Domain Oil Co.'s No. 1 Worsham, 4,001 ft., dry.

Jack County

Big 6 Oil Co.'s No. 5 E. F. Smith, 2,338-55 ft., 112 bbl. B. C. Gilmore's No. 1 Hoefle, 634 ft., dry. Harper & Knappenberger's No. 1 J. R. Marley, 3,134 ft., dry. Maracaibo Oil Exploration Co.'s No. 1 R. A. Owen and others, 3,071-3,280 ft., 385 bbl.

Montague County

Magnolia Petroleum Co.'s No. 1 M. M. Gilbert, 4,325-34 ft., 2,100 bbl. British American Oil Producing Co.'s No. 1 J. A. Martin, 5,680-95 ft., 770 bbl. Sinclair Prairie Oil Co.'s No. 1 D. Doty, 5,436-38 ft., 1,598 bbl. through perforations. Sinclair Prairie Oil Co.'s No. 2 B. H. Howard, 5,443-44 ft., 2,152 bbl. through perforations. T. Wade and others' No. 1 R. L. McLaughlin, 2,981 ft., dry.

Jack County

Rowen & Nichols' No. 1 S. E. Rankin, 3,257 ft., dry. Hiland R. Smith's No. 1 N. Adams, 2,560 ft., dry. Trenman and others' No. 2 R. A. Owens, 3,098-3,305 ft., 100 bbl.

Wichita County

C. O. Davis' No. 3 O. M. Jones, 3,977-4,098 ft., 530 bbl. E. C. Oil Co.'s No. 3 A. W. Burnside A, 4,145-ft., dry. Fain-McGaha's No. 17 E. P. Griffin B, 3,708-3,824 ft., 730 bbl. W. H. Hamon's No. 17 S. Mitchell and others, 3,732-3,884 ft., 328 bbl. Hammon, Hanlon-Buchanan's No. 23 Fassett & Tuttle, 3,937-4,023 ft., 487 bbl. Hanlon-Buchanan's No. 6 Fassett & Tuttle G. 4,019-62 ft., 461 bbl. Hanlon-Buchanan's No. 16 Fassett & Tuttle G, 4,042-81 ft., 404 bbl. Huckelberry and others' No. 1 J. B. Nail, 4,030-94 ft., 67 bbl. King Oil Co.'s No. 10 W. T. Waggoner R, 1,587-1,611 ft., 10 bbl.

Wilbarger County

P. F. Watson's No. 4 W. T. Waggoner, 1,545-60 ft., 10 bbl. J. A. Woods' No. 1 H. Womack, 4,004-38 ft., 520 bbl.

Young County

Bohner & Watson's No. 10 H. O. and E. R. Priceaux, 500-10 ft., 10 bbl. H. Craig's No. 1 I. H. Garthright, 877 ft., dry. S. D. Glover's No. 24-A C. W. Johnson, 555-78 ft., 10 bbl. M. J. and Lucy Grove's No. 6 Emma Barrett, 558-69 ft., 5 bbl. Hy Oil Co. and others' No. 1 S. M. J. Benson, 942 ft., dry. Moran and others' No. 20 W. B. Howard, 899-918 ft., 50 bbl. Moran and others' No. 21 W. B. Howard, 900-25 ft., 46 bbl. Nelson Oil Syndicate's No. 1 W. G. Blount, 3,051-90 ft., 48 bbl. Sparks & Hansen's No. 6 Laird, 903-12 ft., 12 bbl. Trenton Co.'s No. 1 J. M. Nail, abandoned location. West & Stanford's No. 4 J. Williams, 584-601 ft., 5 bbl. Henry Zweifel's No. 3 W. H. Martin, 3,825-60 ft., 24,000,000 cu. ft. of gas.

EASTERN TEXAS

DALLAS, Tex., June 10.—Steady development of Gregg County's Willow Springs gas field is foreseen as the third well nears completion and two others are about ready to commence drilling. General field activity for the district showed a decided decline during the week with only two East Texas field wells completed and only four new locations staked. The East Central Texas area counted five new oil wells and two dry holes.

The Willow Springs gas field in Gregg County, producing from the lower Trinity sands, was discovered about 2 years ago by Humble Oil & Refining Co. and Gulf Oil Corp.'s No. 1 Robertson, Marshall Mann Survey, about 3 miles southeast of the town of Longview. The same operators completed No. 1 Horton several months later for a 2-mile-south extension. The gas from these two wells is at present being used for lifting purposes in the East Texas field.

Several months ago Roger Lacy, independent operator of Longview, was granted a franchise for a gas-distribution system in Longview and immediately announced a three-well drilling campaign for the Willow Springs field. The operator's No. 1 fee, about a mile south and slightly east of the discovery well for the field, came in several weeks ago for an estimated 20,000,000 cu. ft. of gas. During the past week the well was treated with 5,000 gal. of acid and is reported making about 25,000,000 cu. ft. of gas. The ini-

(Continued on Page 105)

Oklahoma Operations

By
DAL DALRYMPLE

Pontotoc Wildcat Finds Oil; Start New Exploratory Tests

A pool opener was completed in Pottawatomie County, the second discovery completed in that county in successive weeks; a gas discovery was completed in Okfuskee County, a shallow oil and gas pool seemed assured for Pontotoc County, and several new wildcats were started to expand exploration in Oklahoma fields.

Kerlyn Oil Co.'s No. 1 Logan, NE NE NE Section 26-5-6, wildcat 1½ miles west of Francis in Pontotoc County, gaged 7,000,000 cu. ft. of gas and produced an estimated 40 bbl. of oil daily on initial test. It was bottomed at 2,007 ft. and plugged back to 1,859 ft. Operators continued to test the discovery, and were drilling below 1,405 ft. at a second test in the area, their No. 1 Chism, SE SE SE Section 24-5-6.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ended June 8, and for the preceding week was as follows:

	Barrels	
	June 8	June 1
Allen	5,325	5,350
Billings	5,950	5,950
Burbank	7,050	7,050
South Burbank	8,450	8,500
Balance Osage	17,750	17,100
Blackwell district	3,550	3,600
Bristow-Slick	5,975	5,950
Chandler	1,150	1,125
Crescent	2,100	2,100
Cromwell	3,000	2,950
Cushing-Shamrock	9,400	9,350
Duncan	3,675	3,700
Edmond	4,350	4,350
Fish	3,225	3,275
Fitts	18,000	17,000
Jesse	2,225	2,375
Graham-Fox	2,250	2,225
Gray	750	750
Healdton	8,875	8,850
Hewitt	3,900	3,900
Keokuk	3,050	3,050
Konawa	1,150	1,150
Lucien	7,925	7,950
Moore	2,100	2,100
Northeastern counties	17,100	17,000
Oklahoma City	113,950	97,850
Olympic	2,150	2,150
Ramsey	3,800	3,800
Sasakwa	1,525	1,550
Sholem-Alechem	2,850	2,825
Seminole district:		
Bowlegs	6,925	6,900
Carr City	2,350	2,350
Dora	2,150	2,150
Earlsboro	4,225	4,250
South Earlsboro	550	550
East Earlsboro	2,050	2,075
Little River	6,750	6,700
East Little River	700	675
Maud	550	550
Mission	1,275	1,275
Seminole	7,250	7,250
East Seminole	1,200	1,150
Searight	2,100	2,100
Total Seminole	38,075	37,975
St. Louis-Pearson	29,150	29,000
Tatums-Tussy	2,250	2,250
Tonkawa-Garber-Thomas	3,950	4,000
Wewoka	1,800	1,775
Yale-Jennings	3,450	3,500
Other pools	84,125	84,875
Total Oklahoma	435,350	418,250

New wildcats included Morgan, Flynn & Cobb's No. 1 Brown, SW SW NE Section 30-3n-5e, an Ordovician test in an area of shallow production in Pontotoc County; Beredum-Trees Oil Co.'s No. 1 School Land, NW NW NW Section 31-21-6, eastern Pawnee County, an Arbuckle lime test, with shallower horizons to be tested also; Summit Drilling Co. and others' No. 1 Arnold, NW NE NW Section 8-19-2e, Payne County; and Gene Burke's No. 1 Morganson, NW NW SW Section 6-2n-16w, Kiowa County, drilling around 400 ft.

Shallow production in the Cumberland area, on the Marshall-Bryan county line, was indicated when some of the wells being drilled near the Cumberland discovery well by Pure Oil Co. found good showings of oil and gas in shallow zones. Pure Oil Co.'s No. 1-A Stewart, SW SE NE Section 26-5s-7e, had gas at 2,725 ft., gas breaking through the drilling mud being killed as operators drilled deeper. The No. 1-A Thomas, SW NE NW Section 28-5s-7e, had oil showings and a good odor of gas at 3,241-55 ft., but drilling continued. Two other tests in the area were being drilled ahead, and a fifth well was being started.

Among the Wildcats

J. W. Meazel's No. 1 Billington, SE NE NE Section 26-9-4, wildcat between West Earlsboro and Grisso areas in Pottawatomie County, perforated casing at 4,196-4,215 ft., was acidized and flowed 118 bbl. of 37-gravity oil in 24 hours. It topped Viola lime at 4,360 ft., dolomite at 4,427 ft., Wilcox sand at 4,473 ft., total depth 4,508 ft.

Anderson-Prichard Oil Corp., Olson Oil Co. and others' No. 1 Geis, C NE SW Section 15-18-9w, Kingfisher County wildcat, originally drilled to 8,507 ft., was deepened to first Wilcox sand at 9,265 ft., second sand 9,316 ft., total depth 9,402½ ft., and was dry and abandoned.

Devonian Oil Co.'s No. 1-A Scott, SE SE NE Section 19-18-5e, Payne County wildcat, had first Wilcox sand at 3,991-95 ft., Marshall zone 3,995 ft., second Wilcox sand 4,024 ft., and was dry and abandoned at 4,041 ft.

Carl Carter's No. 1 Hinton, SE SE SE Section 1-7-17w, Kiowa County wildcat, had lime at 1,965 ft., and was dry and abandoned at 2,764 ft.

Black Gold Oil Co.'s No. 1 Cofer, NE SW SW Section 22-14-6, Lincoln County wildcat, topped Prue sand at 3,072 ft., total depth 3,138 ft., was shot, pumped 3 bbl. of oil in 24 hours and was abandoned.

C. A. Yoakum and others' No. 1 Long, C SW SE Section 34-12-9e, wildcat in Okfuskee County, was completed at 3,826 ft., total depth, for 7,000,000 cu. ft. of gas.

New wildcats included Sanders, Dennis, Hall, Troup & Moore's No. 1 Bowie, NW NE SE Section 3-4-3e, wildcat in the Stratford area, Garvin County, set surface casing at 62 ft. and was building rig; Kerlyn Oil Co.'s No. 1 Chism, NW SE SE Section 24-5-6, Pontotoc County, set surface casing at 40 ft., rigging up rotary; Allied Production Co.'s No. 1 Smulin, NE SE NW Section 2-13-6, Lincoln County, spudded with rotary; Stonehill Drilling Co.'s No. 1 Vann, NW SE NE Section 7-17-9, Creek County, machine; Langston's No. 1 Fiegenbaum, NE NW SW Section 29-28-2e, 3½ miles west of Newkirk, Kay County, rig; Ray Stephens, Inc.'s No. 1 Lankford, SE SE NW Section 6-6-9w, 4 miles southeast of Anadarko and about midway between that town and the Cement field, Caddo County, location.

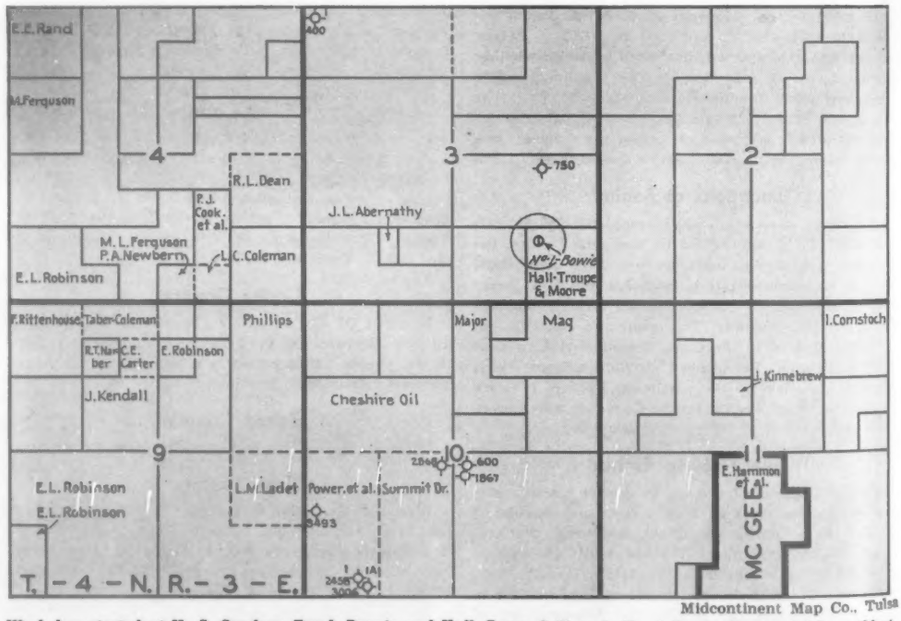
Seminole County

Thompson's No. 4-C Harryman, NE SW SE Section 33-7-6, Dora area, Seminole County, found sand at 2,800 ft., was bottomed at 2,884 ft., was shot and flowed 178 bbl. of oil in 24 hours. Terry's No. 4 Swan, SE NW SE Section 33-7-6, had sand at 2,785-2,885 ft., total depth, plugged back to 2,882 ft., was shot and flowed 152 bbl. of oil in 24 hours.

Winona Oil Co.'s No. 1 Jackson, SW SE NE Section 18-7-8, Fish field, topped Wilcox sand at 4,189 ft., total depth 4,195 ft., flowed 750 bbl. of oil the first 24 hours, and 360 bbl. the next 24 hours, pinched.

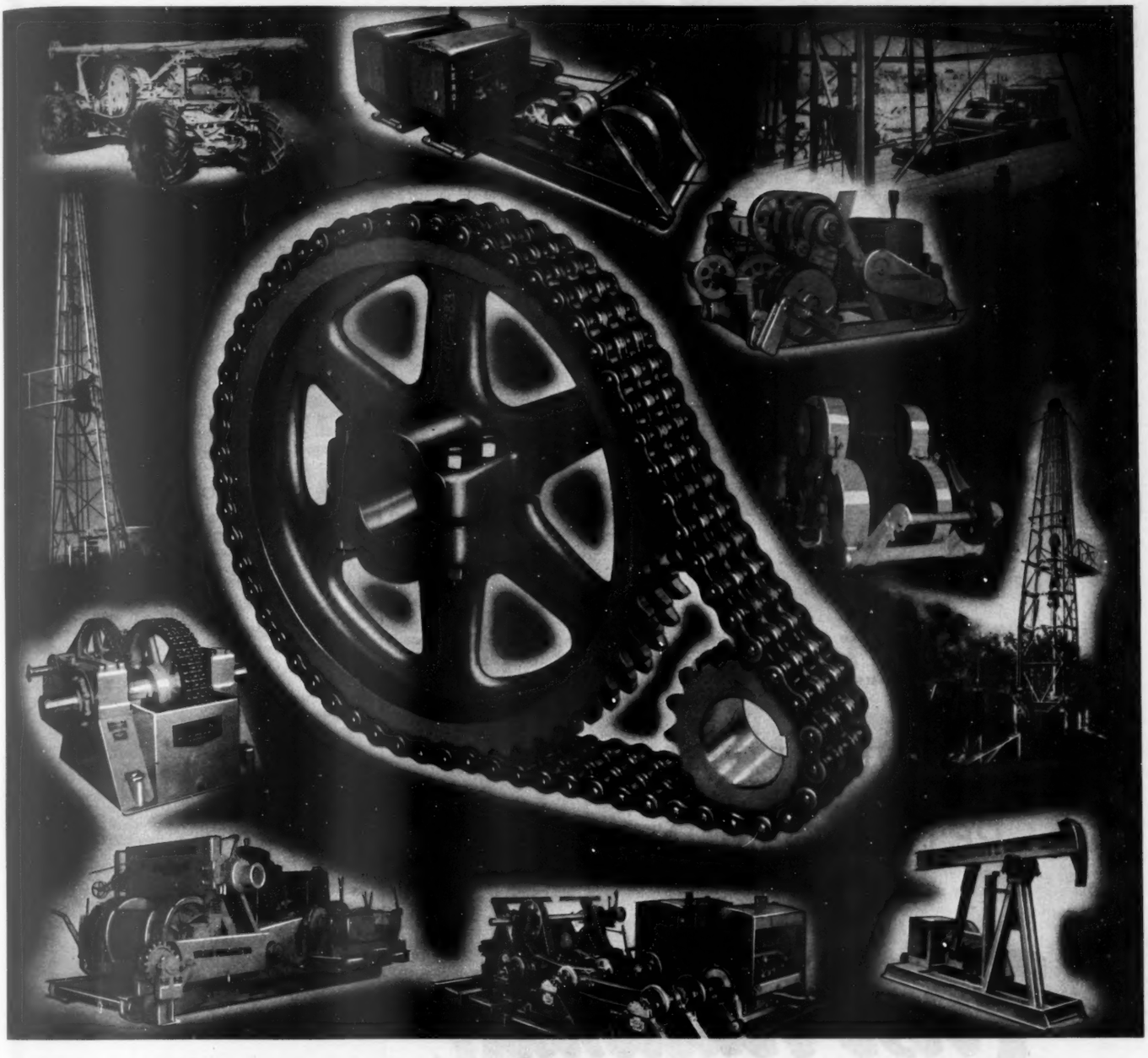
Helmerich & Payne, Inc.'s No. 1 Davis, NE SW NE Section 30-7-8, old well bottomed at 3,052 ft., was deepened to 4,197 ft., ripped casing at 4,075-80 ft., acidized and pumped 24 bbl. of oil and 108 bbl. of water in 24 hours. Kay's No. 1 Nix, SW SE SW Section 22-8-7, found Cromwell sand at 3,216 ft., total depth 3,226 ft., was shot and pumped 25 bbl. of oil daily. Culver & Burton's No. 2 Swan D-A, SW SE SW Section 3-5-5, South Konawa pool, topped Viola lime at 2,835 ft., total depth 2,906 ft., was acidized, and pumped 25 bbl. of oil and 50 bbl. of water daily. Sheppard and others' No. 4 Scroggins, SW NW SW Section 34-7-6, total depth 2,862 ft., 225 bbl. of oil daily.

New work included Traugh's No. 3 Datson, SE SE



Midcontinent Map Co., Tulsa

Work has started at N. A. Sanders, Frank Dennis and Hall, Troup & Moore's No. 1 Bowie, Section 3-4-3e, wildcat northeast of the village of McGee, in northeastern Garvin County. It is about midway between the town of Stratford in Garvin County and the Byars pool in McClain County. Location is on a lease block comprising most of Sections 2, 3, 10, and 11-4-3e, and extending northward into McClain County



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SE Section 22-6-6, sand at 2,349 ft., set 5-in. casing at 2,348 ft.; Shepard and others' No. 5 Scroggins, NW SW SW Section 34-7-6, rig.

Pottawatomie County

Kerlyn Oil Co.'s No. 1 Ogee, SW SE SE Section 8-7-5, St. Louis area, Pottawatomie County, topped Earlsboro zone at 3,172 ft., sand 3,371 ft., total depth 3,411 ft., perforated casing at 2,837-42 ft., and flowed 200 bbl. of 42-gravity oil in 24 hours, cutting 2½ per cent. Howard Berkey's No. 1 Willsie, NW SE SW Section 29-7-4, had Wilcox sand at 4,539 ft. and was dry and abandoned at 4,555 ft.

G. & M. Drilling Co.'s No. 3 Pierce, NW NW NE Section 6-10-4, recently was completed at 4,495 ft., total depth, for 581 bbl. of oil daily.

Pontotoc-Hughes Counties

Lake Oil Co.'s No. 5-B Gray, NW SE SW Section 25-5-4, Bebee pool, Pontotoc County, had Viola lime at 2,455 ft., total depth 2,663 ft., was acidized and pumped 50 bbl. of oil daily.

Phillips Petroleum Co.'s No. 1 Shemwell, C SE NW Section 8-5-10, Calvin pool, Hughes County, was bottomed at 5,595 ft., plugged back to 4,595 ft., shot at 4,505-10 ft., and gaged 30,000,000 cu. ft. of gas; shot at 4,510-24 ft., and gaged 21,000,000 cu. ft. of gas, and flowed 8 bbl. of fluid an hour, with some oil. It was shut in. Shut-in pressure was 1,650 lb. on the casing. Same company's No. 1 Beeker, NE NW SW Section 8-5-10, old Calvin well, bottomed at 6,286 ft., had casing perforated at 4,470-90 ft., acidized and flowed 37 bbl. of oil and 17 bbl. of water in 24 hours, with 7,000,000 cu. ft. of gas. Betts and others' No. 1-A Peebles, SE SE SW Section 29-8-9, recently was dry and abandoned at 450 ft.

Senora Oil & Gas Co.'s No. 2 Summers, NW SW SW Section 25-5-4, new operation in Pontotoc County, was drilling below 890 ft.

Creek County

Chapman's No. 4 Brooks, SW SW SW Section 36-15-10, Creek County, had Wilcox sand at 3,085 ft., total depth 3,106 ft., plugged back to 3,104 ft., was shot, and pumped 81 bbl. of oil and 15 bbl. of water daily.

Other recent Creek County completions: R. B. Wright's No. 8 fee, SW NE SW SW Section 19-17-11, total depth 2,413 ft., gaged 300,000 cu. ft. of gas; Sinclair Prairie Oil Co.'s No. 28 Kiefer, SW SW NE SE Section 17-17-12, total depth 1,538 ft., pumped 12 bbl. of oil; L. C. Carpenter's No. 3 Oswalt, SW SW SW Section 28-18-11, total depth 1,616 ft., pumped 25 bbl. of oil.

Tibbens' No. 1 Judeman, NW SW NW Section 9-14-10, location. Chapman's No. 4 Allen, SE SE SE Section 35-15-10, cellar and pits.

Okfuskee-Lincoln Counties

Suppes' No. 6 Alexander, SW NW NE Section 35-11-9, Okemah area, Okfuskee County, had sand at 1,455 ft., total depth 1,489 ft., and pumped 25 bbl. of oil and 5 bbl. of water daily. Terry's No. 1 Parkinson, SW NW NE Section 18-10-11, was dry and abandoned in Booch sand at 2,384-2,400 ft.

Murray, Griffey & Kemp's No. 1 Matthews, NE SE NW Section 26-17-6, Lincoln County, topped Wilcox sand at 3,190 ft., total depth 3,200 ft., plugged back to 1,700 ft., and gaged 4,000,000 cu. ft. of gas from Layton sand at 1,585-1,690 ft. Summitt Drilling Co.'s No. 1 Griggs, NW NE NW Section 7-15-5, was dry and abandoned in Prue sand at 3,519-56 ft.

Fleming's No. 1-A McKinney, NW SW SE Section 18-10-11, Okfuskee County, was drilling below 700 ft. Dropleman's No. 1 Hensley, NW NE NE Section 3-11-8, was a rig.

Pawnee-Osage Counties

Wood's No. 1 Findley, NW NW SE Section 5-20-9, Pawnee County, topped Prue sand at 1,794 ft., total depth 1,804 ft., and gaged 5,500,000 cu. ft. of gas, with 700 lb. rock pressure.

Alexander and others' No. 1-A Osage, NE SE NW SW Section 16-21-10, Osage County, at total depth of 2,049 ft., pumped 20 bbl. of oil daily. Lovell and others' No. 3 Osage, NW SW SW Section 12-23-11, was dry and abandoned at 1,650 ft. Peters Oil Co. and others' No. 24 Osage, SW NE NW NE Section 24-24-7, was dry and abandoned at 775 ft. D. B. Mason's No. 8 Osage, NW NW SE Section 3-24-12, pumped 5 bbl. of oil daily at 1,574 ft., total depth.

Okmulgee-Tulsa Counties

Completions in Okmulgee County: W. S. Belgie's No. 1-A Grover, NE NW SW NE Section 1-13-14, dry and abandoned at 1,316 ft. J. E. Dow's No. 3-A Simmons, SE SE SW SW Section 12-14-14, total depth 1,064 ft., pumped 18 bbl. of oil daily. Elm Oil Co.'s No. 16 Hutchings, SE NW NE SW Section 13-14-14, total depth 1,138 ft., pumped 10 bbl. of oil daily. L. E. Potter's No. 1-A Armstrong, C E½ E½ SE NW Section 34-14-14, dry and abandoned at 1,222 ft. Dodge's No. 19 Herrod, C S½ SW SE SE Section 17-15-14, total depth 845 ft., pumped 5 bbl. of oil daily. Reliance Oil Co.'s No. 8 Anthis, NW NW NW Section 26-16-11, dry and abandoned at 2,941 ft. Price & Warner's No. 7-A Warner, SE SW NE NE Section 21-14-14, dry and abandoned at 1,124 ft. J. L. Lampert's No. 4 Flint, NE SW SE Section 27-14-14, total depth 1,130 ft., pumped 2 bbl. of oil daily.

Tulsa County: N. E. Howard's No. 6 Davis, SW SE NE Section 8-21-13, total depth 181 ft., pumped 1 bbl of oil daily. Keener Oil & Gas Co.'s No. 8 Dannenberg, NE NW SE NW Section 18-21-13, total depth 1,163 ft., pumped 8 bbl. of oil daily. Cook and others' No. 3-A Horner, SW SE SE SE Section 14-17-12, dry and abandoned at 1,898 ft.

Southwestern Oklahoma

Stephens County: George Pace's No. 19 fee, NE NE NW Section 28-2s-7w, total depth 1,721 ft., plugged back to 1,343 ft., and temporarily abandoned. Central Oil & Drilling Co.'s No. 2 Graham, SW SW SW NE Section 12-1n-5w, total depth 6,005 ft., estimated good for 60 bbl. of oil daily. George Pace's No. 2 Dierks, SE NE NW NW Section 13-2s-8w, dry and abandoned at 2,168 ft.

Cotton County: Selby Oil & Gas Co.'s No. 1 Abott, SW SW NW Section 11-5s-12w, wildcat, total depth 3,480 ft., dry and abandoned.

Carter County: Gibson's No. 3 Mertens, NW NW SE Section 20-4s-2w, set 7-in. pipe at 1,900 ft., total depth 1,939 ft., pumped 15 bbl. of oil daily. Jones' No. 4 Sullivan, SW NW SE Section 36-4s-2w, sand 2,202 ft., total depth 2,480 ft., pumped 25 bbl. of oil daily, with much water. Woodworth & Gibbons' No. 1 Harrell, NW NE SW Section 20-4s-2w, total depth 1,740 ft., pumped 7 bbl. of oil daily.

Dillingham's No. 2 Harrell, NW NW NE Section 27-2s-2w, Carter County, was rigging up rotary tools. Sun-

(Continued on Page 106)

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Six New Fields in Prospect In Five West Texas Counties

By D. H. STORMONT

MIDLAND, Tex., June 10.—West Texas is awaiting the final gage on six new field openers, all of which have indicated good production. The indicated pool openers include one each in Crane, Andrews, Ector, and Stonewall counties, and two in Ward County.

Holding other attention during the week in the West Texas district was a ¼-mile-north extension to the Ellenburger lime Apco field in northern Pecos County, the prospects of a third new shallow discovery in western Crockett County, and reports of several new wildcat locations in southern basin counties.

Crane County's indicated field opener, Gulf Oil Corp.'s No. 31 Waddell, Section 5, Block 24-B, P.S.L. Survey, about midway between the Dunes and Waddell feilds, was last reported swabbing at the rate of about 22½ bbl. of oil daily. The wildcat is still in the drilling stage, swabbing tests being made as each new oil showing is noted. Oil indications have been found at 3,243-53 ft.; 3,312-20 ft., and 3,321-30 ft. Its present total depth is 3,645 ft. The well has 2,600 ft. of oil in the hole, thereby rendering uncertain any new showings found below the 3,330-ft. level.

Andrews County's possible field discovery is Atlantic Refining Co. and Helmerich & Payne, Inc.'s No. 1 University, Section 11, Block 11, University Lands Survey. This wildcat has received third-stage acid treatment with 8,000 gal., which failed to appreciably increase the well's output. Packer has been set at 4,284 ft. and operators were preparing to continue testing as the week closed. It has swabbed 49 bbl. of oil in 15 hours. Total depth is 4,425 ft.

In Ward County Atlantic Refining Co.'s No. 1 Wickett-University, in Section 12, Block 16, University Lands Survey, indicated new field opener 2½ miles west of the south end of the North Ward field, has been retreated with 2,000 gal. of acid with no new results. The pay section has also been shot with 80 qt. from 2,888-2,905 ft. It is showing for a 30 to 40-bbl. well and testing continues.

Ward County's other possible discovery is Kenneth Slack's No. 1 Bird Hayes, Section 148, Block 34, H.&T.C. Survey. Several zones of gas production have been penetrated, the latest being at 5,090 ft. where 10,000,000 cu. ft. of gas was gaged along with about 60 bbl. of oil daily. Some salt water is showing in the well and operators have not indicated whether testing will continue or whether it will be carried deeper. The possible pay is in the Delaware section.

Ector Discovery

Although estimated good for 284 bbl. daily and already assured of a pipe-line connection, M. A. Grisham's No. 1 Cowden, field discovery north of the Goldsmith field in Ector County, is still without an official gage. The well is in NE NE Section 4, Block 45, Township 1n, T.&P. Survey. The test is bottomed at a plugged-back depth of 4,490 ft., it having been originally drilled to 6,090 ft. for a test of the Holt horizon. Gulf Pipe Line Co. is laying a line to the well. Grisham & Hunter's No. 1 Cowden, a small producer drilled in the area several years ago, is being reworked and is indicating good production.

Stonewall County

Stonewall County's indicated field opener of several weeks ago is reported drilling deeper below 6,028 ft. in Mississippian lime. The well indicated a new field about 2 weeks ago when saturation was drilled at 6,015-28 ft. It is Shell Oil Co., Inc.'s No. 1 Annie Smith, Section 143, Block 1, H.&T.C. Survey, in the south central part of the county. The well has been in the drilling stages for more than a year and several zones of possible production have been drilled, all of which are expected to be thoroughly tested should commercial production fail at its total depth.

Apco Extension

Childress Royalty Co.'s No. 1-B Mrs. M. I. Masterson, extending the Apco Ordovician field in north central Pecos County ¼ mile to the west, gaged 747 bbl. of 36-gravity oil, naturally, on a 24-hour test. The flow was through ¾-in. choke on tubing and casing pressure registered 50 lb. The well topped the Ordovician at 4,653 ft. and is bottomed at 4,724 ft. in saturation. Location is NE cor. Section 104, Block 10, H.&G.N. Survey, ¼ mile west of Anderson-Prichard Oil Corp. and Monte Warner's No. 1 Masterson, discovery well for the field.

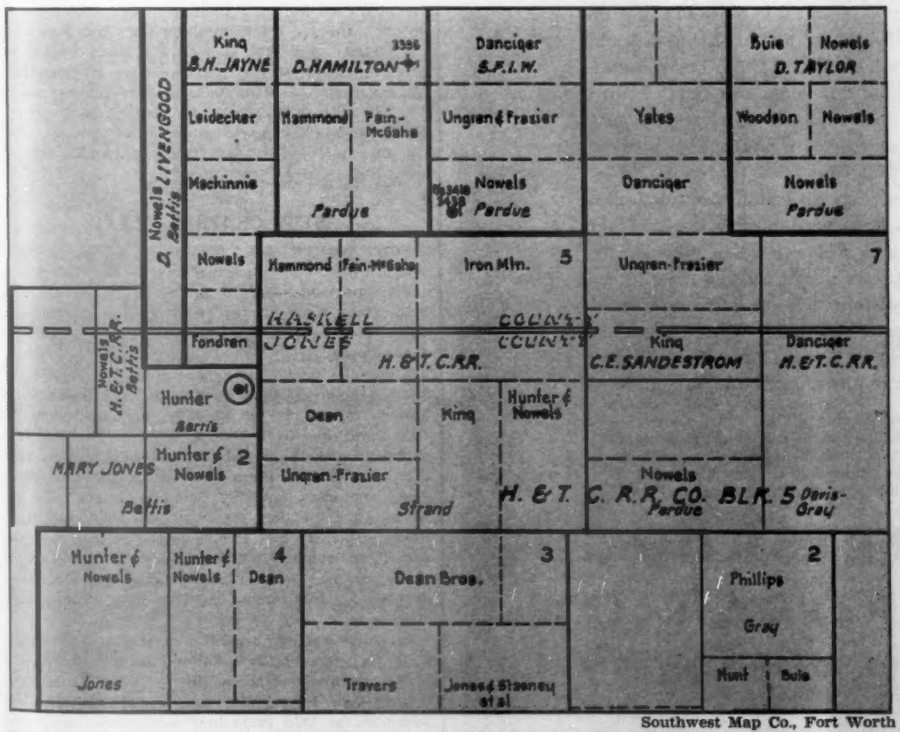
Ector Wildcats

Two wildcat tests on the north and west sides of the Johnson area of Ector County, both on short-term leases, have been staked by Stanolind Oil & Gas Co. One mile west of production the company located No. 1-C J. L. Johnson, SE NE Section 32, Block 43, Township 1s, T.&P. Survey. It is ½ mile south of C. A. Everts' No. 1 Johnson, recent failure at 4,430 ft.

The company's second location is No. 1-D Johnson, SW NW Section 27, Block 43, Township 1s, T.&P. Survey, ⅝ mile northeast of Sinclair Prairie Oil Co.'s No. 1 Johnson, which extended the Johnson area a mile to the north.

Crockett County

Possibility of a third shallow oil field in Crockett County within recent weeks is seen at Moore Exploration Co.'s No. 1 A. C. Hoover, Section 16, Block 1, H.&T.C. Survey, 9 miles east and slightly south of the field recently opened by Soma Oil & Gas Syndicate. The test was bottomed at 2,046 ft. after coring broken zones of saturation and oil showings from 1,920 ft. to the total depth. Several zones of good gas production have also been logged. The operator was undecided as the week closed whether to take two more cores or prepare for completion at the present depth.



Southwest Map Co., Fort Worth

E. B. Nowles' recent Palo Pinto lime field in southern Haskell County has been extended a mile southwest and into Jones County by an estimated 400-bbl. well. This adds considerably to the importance of the Palo Pinto lime horizon in the area

WEST TEXAS FIELD COMPLETIONS

(24-hour gages)

Andrews County

Means field: Humble Oil & Refining Co.'s No. 81 J. S. Means, 4,500-25 ft., 114 bbl.

Crane County

Dunes field: Snowden & McSweeney's No. 7 University, junked and abandoned at total depth of 2,455 ft.

Ector County

North Cowden field: Barnsdall Refining Co.'s No. 8 Smith, 4,059-4,210 ft., 1,364 ft. Cities Service Oil Co.'s No. 3 Rhodes, 4,080-4,200 ft., 974 bbl. Cities Service Oil Co.'s No. 3-B Wight, 4,055-4,220 ft., 1,280 bbl. Sinclair Prairie Oil Co.'s No. 1 O. B. Holt, 4,135-4,266 ft., 145 bbl.

Holt field: Llano Oil Co.'s No. 2-B O. B. Holt, 5,135-5,150 ft., 490 bbl.

Foster field: Barnsdall Refining Co.'s No. 6 Witcher, 3,970-4,170 ft., 1,171 bbl. Broderick & Calvert's No. 23 Witcher, 3,975-4,160 ft., 689 bbl. Forest Development Co.'s No. 1 Paul Moss, 4,031-4,203 ft., 278 bbl.

Goldsmith field: Gulf Oil Corp.'s No. 279 Goldsmith, 4,145-4,212 ft., 451 bbl. Gulf Oil Corp.'s No. 281 Goldsmith, 4,130-83 ft., 1,111 bbl. Gulf Oil Corp.'s No. 282

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Goldsmith, 4,181-4,231 ft., 1,034 bbl. Phillips-Pure's No. 90 C. Cowden, 4,093-4,147 ft., 1,901 bbl.

In wildcat area M. A. Grisham's No. 1 R. B. Cowden, plugged back from 6,090 ft. to pay from 4,275-4,516 ft., 283 bbl.

Jordan field: Shell Oil Co., Inc.'s No. 8-E University, 3,335-3,650 ft., 1,211 bbl.

Hockley County

Slaughter field. Honolulu Oil Corp.'s No. 7-21 Slaughter, 4,930-5,000 ft., 745 bbl.

Tobarg field: Cardinal Oil Co.'s No. 58-E Tippett, 456-464 ft., 42 bbl. A. J. Rife's No. 6 Tippett, 480-494 ft., 30 bbl.

Pecos County

Apco field: Childress Royalty Co.'s No. 1-B Masterson, 4,655-4,724 ft., 747 bbl.

Pecos Valley field: Superior Oil Co.'s No. 10 Iowa Realty Trust, 1,603-48 ft., 80 bbl.

Scurry County

Sharon field: B. R. S. Oil Co.'s No. 2 Shapman, 1,645-1,744 ft., 128 bbl. Dobson & Robinson's No. 6 McClure, 2,235-2,411 ft., 194 bbl.

Terrell County

A wildcat, E. M. Thomasson's No. 2 Bates, dry and abandoned at total depth of 1,531 ft.

Upton County

McCamey field: Texas Pacific Coal & Oil Co.'s No. 1-C Sherk, 2,728-31 ft., 153 bbl.

Ward County

Estes field: Gulf Oil Corp.'s No. 133 Estes, 2,525-2,692 ft., 2,983 bbl. Mrs. E. S. Briant's No. 6 Jones, 2,462-2,589 ft., 116 bbl.

Winkler County

Hendricks field: Stanolind Oil & Gas Co.'s No. T-88-GX-5 Hendricks, 2,950-3,030 ft., 146 bbl. Gulf Oil Corp.'s No. 1-A W. F. Scarborough, plugged and abandoned at total depth of 4,276 ft.

Keystone field: Sam Weiner's No. 3 Jenkins-Continental, 3,270-3,400 ft., 258 bbl.

Yoakum County

Wasson field: Aloco Oil Co.'s No. 3 Elliott, 5,035-5,246 ft., 356 bbl. Don Danvers' No. 1 Jennie Allen, 5,028-5,248 ft., 357 bbl. Honolulu Oil Corp.'s No. 12-804 Wilder, 5,000-5,130 ft., 1,830 bbl. Humble Oil & Refining Co.'s No. 5 Abilene State Bank, 4,920-5,070 ft., 988 bbl. Humble Oil & Refining Co.'s No. 7 Randall, 5,000-5,120 ft., 494 bbl. Mabee Oil & Gas Co.'s No. 3-B Willard, 4,940-5,180 ft., 1,420 bbl. Osage Drilling Co.'s No. 1 Nelson, 4,955-5,167 ft., 751 bbl. Plymouth Oil Co.'s No. 2-D Bennett, 5,120-5,234 ft., 106 bbl. Shell Oil Co., Inc.'s No. 8-B Baumgart, 4,910-5,200 ft., 648 bbl. Shell Oil Co., Inc.'s No. 15-C Baumgart, 4,890-5,175 ft., 1,702 bbl.

WEST CENTRAL TEXAS

FORT WORTH, Tex., June 10.—Holding top attention in West Central Texas during the week was a 1-mile-south extension to southern Haskell County's Palo Pinto lime Nowles field. The extension well, which is the second well in the field, is in northern Jones County.

About the middle of February of this year K. B. Nowles completed No. 1 Pardue, SW cor. S½ S.F.I.W. Survey, for 30 bbl. of oil daily, pumping, from the Palo Pinto lime from 3,394 to 3,404 ft. The discovery of this small field marked the only fruits of more than 9 months of Palo Pinto lime wildcatting throughout Jones and immediately surrounding counties. Several weeks after the field discovery was completed S. B. Roberts started No. 1 Pardue in the SE cor. N½ Section 1, D. Hamilton Survey, about ½ mile north of the discovery. The test was plugged and abandoned at 3,396 ft. after finding the Palo Pinto lime nonproductive.

Several weeks ago J. C. Hunter started No. 1 Willie Z. Bettis, Section 1, T. C. Survey, Jones County, about a mile southwest of the southern Haskell County discovery well. During the past week saturation was found in the Palo Pinto lime section and completion is now under way. The test drilled plugs from 5-in. casing set on top of 5 ft. of saturation from 3,458-63

(Continued on Page 107)

Kansas Developments

By
DAL DALRYMPLE

New Pool Near Arkansas City; Complete Stoltenberg Outpost

The discovery well in Kansas' newest producing area, the Arkansas City pool, was completed the past week at W. M. McNnab's No. 1 Snyder, C W½ NW NW Section 15-34-3e, Cowley County. Production was from sand topped at 3,270 ft. and based at 3,286 ft. Some reports designated the sand as Bartlesville, others Burbank. The hole was plugged back to the producing sand after drilling to barren Mississippi lime at 3,291 ft. It is about 2 miles northwest of Arkansas City.

Other important developments of the week in Kansas included completion of an outpost 1¼ miles northwest of the Stoltenberg pool, Ellsworth County, and extensions of the Blue Hill and Bemis fields.

Aylward Production Co. and others' No. 1 Haska, C E½ SE SE Section 6-16-10w, was the Stoltenberg extensioner.

Palmer Oil Corp. and others' No. 1 Smith, CWL NE NE Section 14-12-18w, extended the Blue Hill pool, Ellis County, ¼ mile eastward, making potential of 1,378 bbl. of oil daily at total depth of 3,073 ft. in Lansing lime.

C. L. Carlock and others' No. 1 Thurston, C W½ NE SW Section 18-11-16w, extended the Cress sector of the Bemis field, Ellis County, ¼ mile eastward. It made top allowable potential of 3,000 bbl. of oil daily from Arbuckle lime.

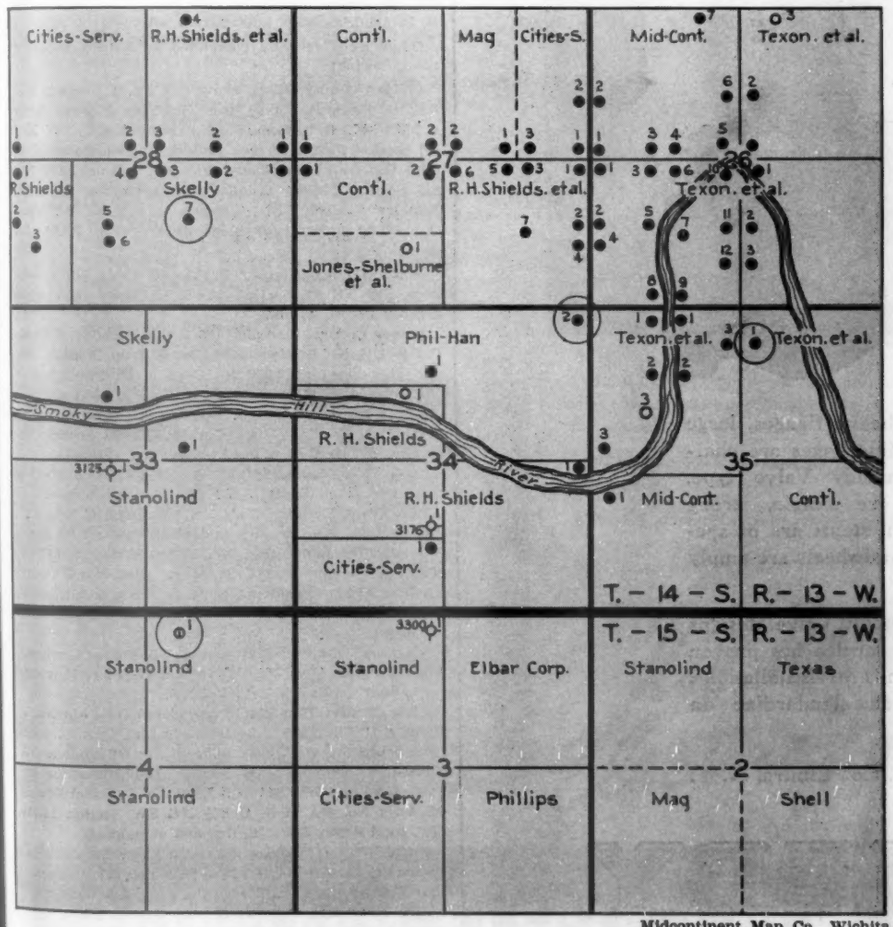
Wildcat Operations

Aylward Production Co. and others' No. 1 Haska, C E½ SE SE Section 6-16-10w, Ellsworth County wildcat, opened a wide area in the Stoltenberg field to development when it was completed the past week. It is 1¼ miles northwest of nearest Stoltenberg production, and is expected to prove an extension of that pool rather than a new pool opener. Arbuckle lime was topped at 3,273½ ft., 5-in. pipe was set on top the formation, total depth 3,292 ft. It was treated with 1,200 gal. and 2,000 gal. of acid, pumped 92 bbl. of oil in 4 hours and potential was calculated at 2,321 bbl. daily. Gravity of the oil was 42.5°.

Sharon Drilling Co. and Atlantic Refining Co.'s No. 1 Novotny, C N½ NW NE Section 32-16-10w, about 1 mile southwest of Stoltenberg pool, topped Arbuckle lime at 3,292 ft., total depth 3,318 ft., was shot and acidized without satisfactory results, and was dry and abandoned.

Cities Service Oil Co.'s No. 1 Rochester, SE SE NE Section 11-13-15w, wildcat in Russell County, had Arbuckle lime at 3,238 ft., water intruded and it was abandoned. C. L. Carlock and others' No. 1 Jenke, C W½ NW NW Section 7-18-11w, Barton County, had nothing showing in Arbuckle lime at 3,417-60 ft., total depth, and was abandoned. Chaplin Refining Co.'s No. 1 Fiege, C E½ SE NE Section 22-20-11w, Barton County, was dry and abandoned in Arbuckle lime at 3,403-15 ft., total depth. Bartlett & Crum's No. 1 Hulme, C E½ SE SW Section 9-20-12w, Barton County, had nothing showing in Arbuckle lime at 3,435-41 ft., total depth, and was abandoned. Ralph Wixson and others' No. 3 Bolin, SE SW NE Section 1-27-6, Butler County, topped Simpson formation at 3,072 ft., the hole filled with water at 3,092-96 ft., and it was abandoned at 3,105 ft. Kerlyn Oil Co.'s No. 1 Wise, C SE SW Section 28-12-20, wildcat east of Lawrence, Douglas County, found Mississippi lime at 1,185 ft., and was dry and abandoned at 1,588 ft.

New wildcat operations included the following: Davis Gas Corp.'s No. 1 Julian, SW SW NW Section 9-11-19, southern Jefferson County, was a machine; Robertson and others' No. 1 Miller, CWL SW NE Section 4-16-14w, Barton County, moving in material; Finston & Co. and others' No. 1 Pickner, CEL NE SW Section 24-16-11w, Barton County, rotary rig; Jocelyn and others' No. 1 Hall, SE SE SW Section 7-29-7, Butler County, location; Trees Oil Co.'s No. 1 Orr, NW NW NE Section 17-30-4, rig.



Midcontinent Map Co., Wichita

A south extension of the east end of the Hall pool, Russell County, is sought at Stanolind Oil & Gas Co.'s No. 1 Bellerman, Section 4-15-13w. Recent completions in this end of the field, in Sections 28, 34 and 35-14-13w, are circled

Estimated Daily Production

Estimated daily production for Kansas for the week ended June 8, and for the preceding week was as follows:

	Barrels	
	June 8	June 1
Oxford City	750	700
Burrton	7,800	7,950
Ritz-Canton	3,550	3,650
Graber	2,700	2,800
Hollow-Nikkel	1,350	1,400
Lerado	500	500
Voshell	1,500	1,550
Wellington	1,650	1,750
Ellsworth County:		
Lorraine	1,300	1,500
Other pools	2,030	2,033
Rice-Barton counties:		
Bloomer	2,250	4,000
Chase	3,400	3,650
Geneseo	3,250	2,500
Raymond	750	1,000
Silica	8,750	11,450
Keesling	650	800
Wherry	3,550	2,850
Miscellaneous Rice	1,510	50
Miscellaneous Barton	5,905	8,994
Trapp district	10,650	11,550
Balance Russell County	16,700	16,750
Sedgwick County	3,150	3,200
Ellis County:		
Bemis	8,100	7,250
Miscellaneous	4,885	3,970
Kingman County	575	525
Stafford County	4,995	7,605
Greenwood County	8,300	8,250
Eldorado	7,250	7,300
Other fields	33,200	33,323
Total Kansas	150,950	158,850

Completions of the Week

Barton County: C. E. Ash's No. 2-A Schartz, NE NE NW Section 7-20-11w, West Ellinwood area, total depth 3,352 ft. in Arbuckle lime, potential 466 bbl. Shell Oil Co., Inc.'s No. 12-B Bitter, SW SW SE Section 6-16-13w, Trapp field, total depth 3,353 ft. in Arbuckle lime, potential 130 bbl. Bartlett & Simpson's No. 1 Hulme, SE SW Section 9-20-12w, Arbuckle lime, 3,420-45 ft., total depth, dry and abandoned. R. E. Day's No. 1 Dolechek, NW NW SW Section 13-16-12w, Coal Creek area, total depth 3,346 ft. in Arbuckle lime, potential 3,000 bbl., maximum. Cities Service Oil Co.'s No. 3 Bauman, NE SE SW Section 6-16-13w, Trapp pool, potential 1,342 bbl., calculated, total depth 3,351 ft. in Arbuckle lime.

Butler County: E. B. Shawver's No. 1-A Cameron, C S½ N½ SW Section 2-25-5, Eldorado field, Butler County, had sand at 2,185-2,226 ft., total depth, and swabbed 40 bbl. of oil daily.

Ellsworth County: Magnolia Petroleum Co.'s No. 2

Zink, NW SW Section 33-17-10w, Bloomer pool, total depth 3,247 ft. in Arbuckle lime, potential 1,140 bbl. Prunty Production Co.'s No. 1 Skalicky, CWL NW NW Section 9-16-10w, Stoltenberg pool, total depth 3,272 ft. in Arbuckle lime, potential 3,000 bbl., maximum, extended the pool ¼ mile northward.

Ellis County: C. L. Carlock and others' No. 1 Thurston, C W½ NE SW Section 18-11-16w, Bemis field, Arbuckle lime 3,338 ft., total depth 3,347 ft., acidized, potential 3,000 bbl., maximum. Frank Hollow and others' No. 3 Cress, C N½ NW SW Section 13-11-17w, Bemis field, Arbuckle lime 3,385 ft., total depth 3,407 ft., dry and abandoned. Palmer Oil Corp.'s No. 1 Smith, CWL NE NE Section 14-12-16w, Blue Hill pool, total depth 3,073 ft., in Topeka lime, potential 1,378 bbl. Phillips Petroleum Co.'s No. 4 Peavey, CSL SW NE Section 13-11-18w, Burnett pool, total depth 3,389 ft. in Arbuckle lime, potential calculated at 3,000 bbl. Dickey Oil Co.'s No. 3-B Henderson, SW SW Section 6-11-17w, Burnett pool, total depth in Arbuckle lime 3,518 ft., potential 386 bbl.

Marion County: Phillips Petroleum Co.'s No. 3 Neva, SW NW SE Section 21-17-4, Lost Spring pool, total depth 2,397 ft. in chat, potential 152 bbl.

New Bornholdt Producers

McPherson County: Sunray Oil Co.'s No. 3 Johnson, CNL NW NE Section 31-20-5w, Bornholdt pool, total depth 3,381 ft. in chat, potential 340 bbl. Republic Natural Gas Co.'s No. 4 Mattson, NW SW Section 19-20-5w, total depth 3,350 ft. in chat, swabbed 36 bbl. daily. Ohio Oil Co.'s No. 2 Peterson, NW SW Section 29-20-5w, total depth 3,403 ft., swabbed 38 bbl. Ohio Oil Co.'s No. 1 Lindquist, C E½ NW SW Section 19-20-5w, total depth 3,365 ft. in chat, potential 3,000 bbl., calculated. Cities Service Oil Co.'s No. 3 Pearson, CSL SW SE Section 19-20-5w, total depth 3,337 ft. in chat, potential calculated at 3,000 bbl.

Rice County: Gulf Oil Corp.'s No. 5 Ames, CNL SE NW Section 6-18-10w, Bloomer field, total depth 3,236 ft. in Arbuckle lime, potential calculated at 3,000 bbl. H. & T. Oil Co.'s No. 4-A Stout, SW NE Section 6-18-10w, Bloomer field, total depth 3,234 ft. in Arbuckle lime, potential 3,000 bbl., calculated. Vickers Petroleum Co.'s No. 1-B Scott, C S½ NW NE Section 20-20-10w, Raymond pool, total depth 3,322 ft. in Arbuckle lime, potential 158 bbl.

Russell County: Darby Petroleum Corp.'s No. 1-B Strecker, NW NW NE Section 25-14-14w, Hall pool, total depth 2,901 ft. in Lansing lime, potential 1,852 bbl. after acid. Skelly Oil Co.'s No. 7 Colliver, C N½ NE SE Section 28-14-13w, Hall pool, potential 1,324 bbl., total depth 2,916 ft. in Lansing lime. Stanolind Oil & Gas Co.'s No. 3-B Michel, CSL NW NW Section 36-14-14w, Hall pool, total depth 3,156 ft., in Gorham sand, potential 667 bbl. Skelly Oil Co.'s No. 14 Neidens, SE NE SE Section 32-15-13w, Trapp field, total depth 3,338 ft. in Arbuckle lime, potential calculated at 3,000 bbl. Helmerich & Payne, Inc.'s No. 3 Boxberger, CSL NE Section 21-14-14w, Gurney pool, total depth 3,103 ft. in Lansing lime, swabbed 103 bbl. W. I. Southern, Inc.'s No. 1-A Hinderliter, NW SW Section 28-15-13w, Trapp field, total depth 3,345 ft. in Arbuckle lime, potential 64 bbl. Coralena Oil Co.'s No. 11 Dumler, SW NW Section 36-15-14w, Trapp field, total depth 3,316 ft. in Arbuckle lime, potential 65 bbl. Phil-Han Oil Co.'s No. 2 Letsch, NE NE Section 34-14-13w, Hall pool, total depth 2,849 ft. in Lansing lime, potential 2,467 bbl. Shell Oil Co., Inc.'s No. 2 Sellens, SW SW Section 33-15-13w, Trapp field, total depth 3,344 ft., potential 3,000 bbl. Same company's No. 3-A Batt, SE NE SW Section 13-14-15w, Trapp pool, total depth 3,337 ft. in Arbuckle lime, swabbing potential 130 bbl. Continental Oil Co.'s No. 1-A Hall, NW NW NE Section 35-14-13w, Hall pool, total depth 2,810 ft. in Lansing lime, potential 609 bbl.

New Well at Zenith

Stafford County: Deep Rock Oil Corp.'s No. 1 Heggy, CEL SW Section 10-24-11w, Zenith field, total depth 3,302 ft. in Misener sand, potential calculated at 3,000 bbl. Stanolind Oil & Gas Co.'s No. 5-A Hitz, C N½ S½ NW Section 2-22-12w, South Sittner pool, total depth 3,587 ft. in Arbuckle lime, potential calculated at 1,710 bbl. Same company's No. 8-A Seifkes, CSL SE NE Section 3-22-12w, South Sittner pool, total depth 3,609 ft. in Arbuckle lime, potential calculated at 1,252 bbl. J. E. Trigg and others' No. 2 Mellies, SW SW Section 36-21-12w, Max pool, total depth 3,574 ft. in Arbuckle lime, potential 65 bbl.

Other wells recently completed in Kansas included the following:

Cowley County: E. B. Shawver's No. 1 Boeger, NW NE NE Section 21-30-4e, Rock pool, total depth 2,794 ft., 393 bbl. O. J. Connell's No. 1 Dickinson, NW NW SE Section 30-30-4e, Trees pool, dry and abandoned at 2,885 ft. Ryan Consolidated Co.'s No. 1 Couch, SW NE SE Section 13-30-5, total depth 2,800 ft., 246 bbl. Winkler & Koch's No. 7 Ferguson, SW NE SW Section 21-30-8, Ferguson pool, total depth 2,184 ft., 35 bbl.

Butler County: Sinclair Prairie Oil Co.'s No. 8 Graham, SW NE SE Section 4-26-5, Eldorado field, total depth 2,619 ft., 75 bbl.

Barton County: Stanolind Oil & Gas Co.'s No. 3 Deal, C E½ E½ NE Section 35-16-13w, Ainsworth pool, dry and abandoned at 3,372 ft. Gore & Finston's No. 1 Burmeister, C N½ NW SE Section 27-16-11w, total depth 3,420 ft., dry and abandoned. Vickers Petroleum Co.'s No. 1 Valenta, C W½ NE NE Section 31-16-11w, dry and abandoned at 3,285 ft. Stanolind Oil & Gas Co.'s No. 3 Schmidt, C N½ N½ SE Section 35-19-11w, total depth 3,387 ft., dry and abandoned. Alpine Oil & Refining Co.'s No. 1 Schartz, C N½ NW SW Section 1-20-12w, dry and abandoned at 3,386 ft. Stanolind Oil & Gas Co.'s No. 15 Stueckemann, SE SE NW SW Section 11-20-11w, Silica field, total depth 3,293 ft., 3,000 bbl. Same company's No. 6 Jutting, C N½ NE NW Section 15-20-11w, total depth 3,312 ft., 342 bbl.

Ellsworth County: Continental Oil Co. and others' No. 4-A Ploog, NW NW SW Section 27-17-8w, Edwards pool, total depth 3,230 ft., 772 bbl.

Ellis County: Tide Water Associated Oil Co.'s No. 1 Riddler, C E½ NE SW Section 1-11-18w, Burnett pool, total depth 3,448 ft., 3,000 bbl. Skelly Oil Co.'s No. 5 Kempe, C S½ NW NE Section 12-11-18w, Burnett pool, total depth 3,394 ft., 3,000 bbl. Cities Service Oil Co.'s No. 6-A Hall, C S½ NE SW Section 14-11-17w, total depth 3,393 ft., dry and abandoned.

Russell County: Hartman & Blair's No. 2-D Boxberger, SE SE SE Section 14-14-14w, Gurney area, dry and abandoned at 3,299 ft. Texas Co.'s No. 1-B Boxberger, C E½ NE NE Section 22-14-14w, Gurney field, total depth 3,072 ft., 1,033 bbl. Skelly Oil Co.'s No. 2 Rein, C S½ S½ SW Section 25-14-14w, Gurney area, total depth 2,985 ft., 1,494 bbl. Same company's No. 2 Dris-

(Continued on Page 106)

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PETROLEUM ELECTRIC POWER ASSOCIATION

North Louisiana, Arkansas

By
GEORGE WEBER

Important Pools Opened in Lafayette, Miller Counties

SHREVEPORT, La., June 10.—A Smackover lime discovery of major proportions is indicated in a wildcat in Lafayette County, Arkansas, as operators prepare to test a thick section of the porous oolitic lime. A second new field for South Arkansas is in the making in Miller County, and a 2-mile extension of gas production was brought in during the past week in La Salle Parish, North Louisiana.

Smackover Strike

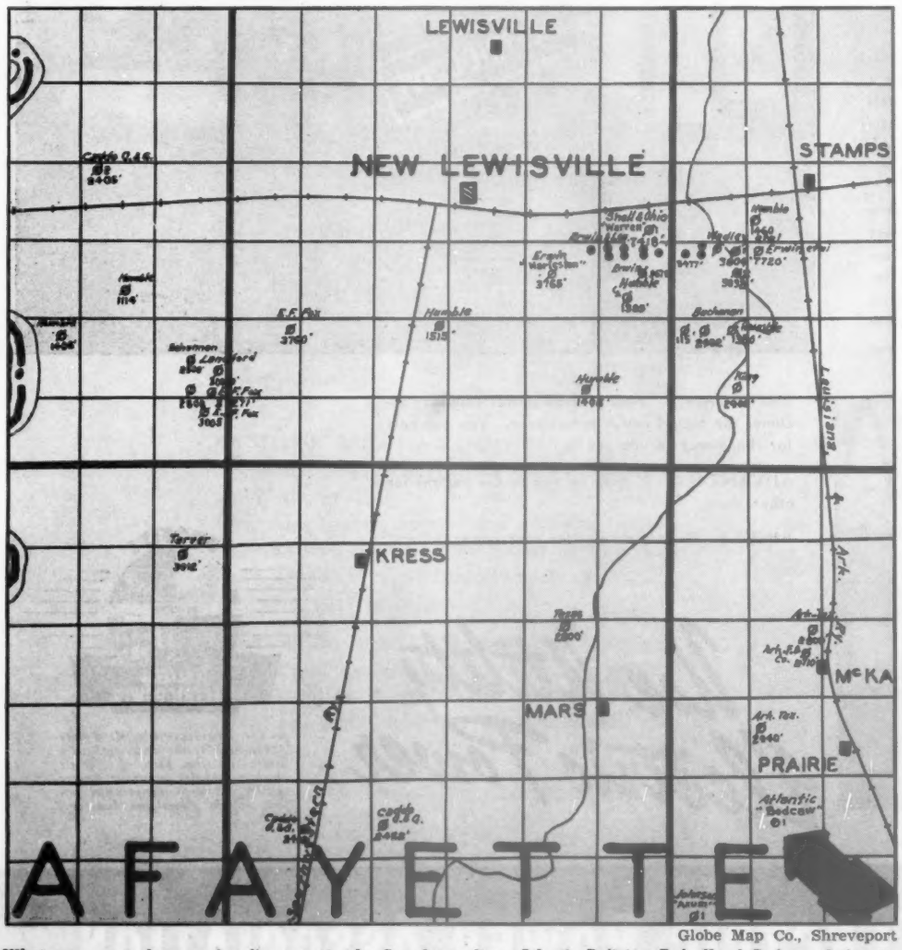
Atlantic Refining Co.'s No. 1 Bodcaw Lumber Co., Section 29-17-23, Lafayette County, Arkansas, late last week topped the Smackover formation at 9,028 ft. and found the porous oolitic member at 9,097 ft. The upper section of this lime down to 9,122 ft. was gas formation, and the oil-water contact was placed at 9,204 ft., giving a gas cap of 25 ft. and a saturated oil section of 82 ft. Operators set 5½-in. casing at 9,220 ft. in hard dense lime, with total depth at 9,221 ft. Casing was perforated with 60 shots at 9,175-90 ft., and the well started flowing, producing 13 bbl. per hour of 58-gravity distillate through 14/64-in. choke, with tubing pressure at 2,750 lb. Casing pressure was not learned.

The new discovery, called the McKamie prospect, is located 19 miles west of the prolific Magnolia field in Columbia County, and 7 miles south of the shallow Lewisville field, in Lafayette County. A Schlumberger survey, in addition to the above points, gave the top of the Cotton Valley formation at 6,753 ft. and the top of the Buckner formation at 8,900 ft.

Fouke Well

In the Fouke area of Miller County, Arkansas, Standard Oil Co. of Louisiana has plugged back No. 1 Sturgis to complete it in the Paluxy formation for another field discovery. The test, which discovered the Paluxy production several weeks ago, was drilled and cored to a total depth of 9,550 ft. exploring the lower Glen Rose, Smackover, and other formations without finding further showings.

A string of 7-in. casing was set at 4,012 ft. and perforations shot at 3,850-54 ft. The well flowed 10 bbl. hourly of salt water, and after swabbing for 4 hours showed no oil or gas. A cement retainer was set at 3,786 ft. and the perforation points squeezed. The operators then reperforated at 3,576-3,606 ft. and at latest reports the well was cleaning itself making 21 bbl. of oil and 6 bbl. of wash water per hour. The Sturgis well is 12 miles southeast of Texarkana and about 20 miles north of the Miller County extension of the Rodessa field. A showing of oil was also encountered in the Blossom sand at 2,900 ft., although it did not test commercial quantities.



Globe Map Co., Shreveport

What appears to be a major discovery in the Smackover lime, Atlantic Refining Co.'s No. 1 Bodcaw, Lafayette County wildcat, found porous oolitic lime at 9,097 ft. carrying gas. The gas-oil contact is at 9,122 ft. and the oil-water contact is at 9,204 ft. The new discovery is 19 miles west of the Magnolia field

Production by Pool

Estimated daily gross production of all companies for week ended June 8 follows:

NORTH LOUISIANA

	Barrels
Bellevue	475
Caddo light	5,220
Caddo heavy	2,100
Converse	545
Cotton Valley	*14,950
Cross Lake	5,040
De Soto and Red River	1,060
Elm Grove	280
Haynesville	2,750
Holly	55
Homer	2,860
Lisbon	4,505
Olla	1,810
Pleasant Hill	85
Rodessa	19,960
Sarepta-Carterville	†340
Sligo	1,840
Sugar Creek	595
Urania	2,860
Zwolle	‡1,850
Total	69,180

SOUTH ARKANSAS

Atlanta	1,900
Big Creek	65
Buckner	2,460
Champagnolle	1,145
Dorcheat	1,165
El Dorado	1,745
Lewisville	950
Lisbon	215
Magnolia	20,300
Miller County	265
Nevada	700
Nick Springs	525
Rodessa	2,280
Schuler	18,475
Smackover light	1,755
Smackover heavy	13,725
Stephens	535
Troy	1,320
Urbana	925
Village	1,065
Total	71,515

*4,250 bbl. is distillate. †75 bbl. is distillate. ‡Rodessa, Tex., 18,049 bbl.

North Louisiana

Olla, La Salle Parish, most active new field in North Louisiana, was extended 2 miles south with gas production during the week. The new well, Placid Oil Co.'s No. 16 Louisiana Central, C NW NW Section 36-10-2, topped the Wilcox formation at 1,562 ft. and found what was originally described as oil sand at 2,180-2,204 ft. and 2,312-46 ft. Casing was run, and perforated at 2,224-34 ft., and the well completed for an initial gage of 15,000,000 cu. ft. of gas.

Three oil wells were also completed at Olla during the week in south, southeast, and north-edge locations. A 4-mile-north outpost, Placid Oil Co.'s No. 17 Louisiana Central, is drilling below 2,600 ft. This well will be a deep test.

NORTH LOUISIANA COMPLETIONS

Caddo—Caddo Parish

L. M. Calhoun, Jr., trustee's No. 2 Caddo O. & M. Co., Section 12-20-16, flowing 70 bbl., 6⅝-in. casing at 1,362 ft., total depth 1,533 ft. E. O. Mitchell's No. 1 fee, Section 12-20-16, pumping 65 bbl., total depth 1,528 ft. Baxter Moody's No. 1 Muslow, Section 5-20-15, pumping 100 bbl., total depth 1,563 ft. Sklar Oil Co.'s No. 1 Cheshire, Section 32-21-15, pumping 75 bbl., total 1,604 ft. Stanolind Oil & Gas Co.'s No. 1 Noel estate, Section 25-21-15, pumping 30 bbl. of oil and

(Continued on Page 104)

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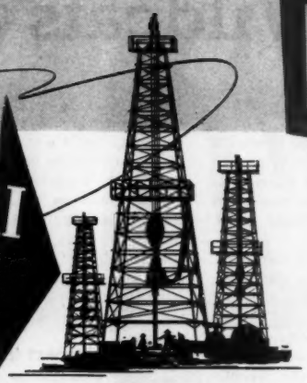

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Southwest Texas District

By
F. L. SINGLETON

Two Pools Opened and Seven Wildcats at the Testing Stage

CORPUS CHRISTI, Tex., June 10.—With two new pools opened and production tests scheduled to be made on seven other prospective pool discoveries, operators in the Southwest Texas district the past week marked up an interesting week of developments. Discoveries were made in Starr County, while possible new pools were indicated in Jim Wells, Duval, Jim Hogg, Starr, and Cameron counties.

George R. Boyle and others' No. 1 Carruth, Share 1-B, Porcion 91, about 5 miles southeast of the Barbacoas field, Starr County, flowed 93 bbl. of 43.9-gravity oil per day. The well was tested for 7 hours on a 7/64-in. choke, and for 17 hours through a ⅛-in. choke. Tubing pressure was 1,000 lb. and shut-in casing pressure 1,465 lb. The well was drilled to 3,504 ft., and the completion was made by perforating casing at 3,490-98 ft. Production is believed from the Pettus sand, and the strike is expected to create a new type of trend play through the southeastern part of the county.

In the same county, and about 8 miles southwest of the Sun field, Sun Oil Co.'s No. 1 Lehr pumped 29 bbl. of oil and some wash water in 6½ hours. Working pressure was 250 lb. The well was drilled to 5,542 ft., and production is from sand at 4,100-54 ft. Location is in the C.C.S.D.&R.G.N.G. Survey 513.

Glenn Harroun's No. 1 Margaret Seabury, the second well drilled in the Hayden field, Starr County, is preparing for a production test after cementing casing at 1,337 ft. Sand was cored at intervals from 1,201 to 1,346 ft., the total depth, and casing was cemented following a 30-minute drill-stem test at 1,340-46 ft., which recovered 20 ft. of drilling mud, cut with oil, and 1 gal. of free oil. The well is located on a Humble Oil & Refining Co. farmout lease in Share 46, Lot 6, J. A. De la Garza Survey.

In Jim Hogg County, about 3 miles west of the Randado field, Walter Aching and Charles Daubert's No. 1 Wood, Survey 82, looms as the discovery well of a pool as 180 ft. of pipe-line oil was recovered in a 15-minute drill-stem test at 2,607-14 ft. Working pressure built up to 300 lb. Oil sand was cored in the Pettus horizon at 2,608-14 ft., and 7-in. casing was cemented at 2,607 ft.

Another pool for the Jim Wells County sector of the Frio Vicksburg trend, the third within the past month, was indicated as H. H. Howell was testing No. 1 San Antonio Joint Stock Land Bank, a wildcat 5 miles south of Bentonville. After drilling to 6,556 ft., an electrical survey was made, which showed the top of the Greta sand at 4,225 ft., and top of the Vicksburg at 5,085 ft. Sand, showing oil, was logged at 5,646-60 ft., and at 6,662-66 ft. Seven-inch casing was cemented on bottom, and the well is being tested through perforated pipe. Location is in Block 14, Section 9, Scott resubdivision of Benton pasture, in the Antonio Longoria grant.

Southeast of Sandia, in the northeastern corner of the county, M. M. Miller's No. 1 Gallagher is reported showing oil while cleaning out through a small choke. After making a drill-stem test at 5,191-5,215 ft., which recovered 900 ft. of oil, solid sand showing oil was cored at 5,215-24 ft., and 7-in. casing was cemented on bottom.

Henshaw Brothers and Atlantic Refining Co.'s No. 1 Baschke, the discovery well of the Orange Grove field, Jim Wells County, is being recompleted due to salt-water encroachment. This well was completed in May for an initial production of 87 bbl. of oil, plus 32 per cent salt water, and during the past few days the well has been showing an increase in salt water. The hole was plugged back to 5,096 ft., and tubing is being run for completion following a drill-stem test at 5,090-95 ft., which recovered 1,000 ft. of oil and 360 ft. of salt water. There are more than a dozen rotaries drilling in the Wade City-Orange Grove sector and the number of active operations is being increased due to several extensions which were made during the past week.

Bridwell Oil Co.'s No. 1-A Rogers was reported flowing an estimated 5 bbl. of oil per hour while cleaning out through a small choke. This well was drilled to 4,327 ft., and 5½-in. casing was cemented on bottom, after a 10-minute drill-stem test in the Pettus sand at 4,321-27 ft., recovered 210 ft. of pipe-line oil. The well is in J. Poitevent Survey 21, about 3 miles southwest of the Fitzsimmons field. Locations for two more Pettus sand wells were made. Frank Frohnhoefer and others staked No. 1 V. Carrello, 2½ miles southwest of the Muralla field in the Augustin Cantu Survey 310. Six miles northwest of Realitos Providence Oil Co. made a location for No. 1 C. Driscoll in the I.&G.N. Survey 138.

Prospect in Cameron County

In the Rio Grande Valley area, and in Cameron County, Pure Oil Co. and others were preparing to complete No. 1 Garcia Land & Livestock Co. as a gas well. Drilled to 10,307 ft., 471 ft. of 5½-in. liner was set at 8,603 ft., and the well is being tested at 8,500 ft., where an electrical survey showed promise of production. This is the third well drilled on the company's large block and if productive it will be the first production in the county. Location is in the Santa Isabel grant, about 3 miles northwest of No. 1 Gatewood & Newberry, a recent dry hole.

In the Glenn field, Webb County, O. W. Killam is preparing to test No. 2 Bruni. Sand, showing oil, was cored at 2,183-86 ft., total depth, and 7-in. casing was cemented at 2,183 ft., after a drill-stem test recovered 80 ft. of oily mud.

In the Robstown field, Nueces County, Richardson Petroleum Co. is rigging up its first test in the townsite of Robstown. The well is No. 1 Boy Scouts of America, in the M. L. de Herrera grant in Block 5. The Robstown city council granted the company another drilling permit in Block 7. The company was recently granted drilling permits on 30 drilling blocks which consist of about 600 acres out of the 880 acres in the city limits.

Along the Balcones fault-line district, 2 miles west of Sayersville, in Bastrop County, W. C. McGlothlin and others are preparing to test No. 1 Ella Bell, which looms as the discovery well of an Edwards lime pool. The hole is bottomed in Edwards lime at 3,154 ft., and 5½-in. casing was cemented at 3,143 ft. Edwards lime was topped at 3,138 ft., and hard lime was drilled at 3,138-50 ft. Soft lime with oil saturation in spots was cored at 3,150-54 ft. Location is in the Albert Black Survey 35.

In Victoria County Sunray Oil Co. and Colton & Colton's No. 1 E. Terrell, the discovery well of the Terrell field, is being deepened after production decreased to 1½ bbl. of oil per hour. The well was originally completed in sand at 5,275-84 ft., for an initial production of 75 bbl. per day, flowing through a 7/64-in. choke.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

Aransas-San Patricio Counties

McCampbell field: Bay Tex Oil Corp.'s No. 1 Lewellen-Predmore, 7,501 ft., dry and abandoned. F. A. Gillespie's No. 1 Grief, perforated casing 6,810-20 ft., 38 bbl., 5/64-in. choke. H. H. Howell's No. 1 Grabow, perforated casing 7,425-48½ ft., 105 bbl., 3/16-in. choke. H. H. Howell's No. 1 Sigmond-Click, perforated casing 7,438-52 ft., 60 bbl., ⅝-in. choke. Texas Atlas Petroleum Corp.'s No. 1 Morgan-McCloud, perforated casing 7,105-09 ft., 97 bbl., 3/16-in. choke.

Duval County

Cedro Hill field: Humble Oil & Refining Co.'s No. 16-F Duval County Ranch Co., 1,438 ft., 16 bbl. of fluid in 12 hours, 35 per cent salt water. Driscoll field: Continental Oil Co.'s No. 50-A Driscoll, perforated casing 3,345-58 ft., 104 bbl. in 12 hours, ¼-in. choke. Hoffman field: Magnolia Petroleum Co.'s No. 12 Well, 2,813 ft., dry and abandoned. Tarancahuas field: Cox, Hamon and others' No. 8 Hoffman, 2,071 ft., 264 bbl., ¼-in. choke.

Calhoun County

Heyser field: Humble Oil & Refining Co.'s No. 24-B Welder, 5,489 ft., 50 bbl. in 6 hours, 3/16-in choke.

Hidalgo County

Samfordyce field: Royal Oil & Gas Co.'s No. 2-A Chapa, perforated casing 4,093-4,100 ft., 120 bbl., ¼-in. choke.

Jim Hogg County

Colorado field: Humble Oil & Refining Co.'s No. 13 Atwood, 3,088 ft., 134 bbl., 3/16-in. choke. R. A. Welch's No. 1 Hachar, 3,514 ft., dry and abandoned. Kelsey field: Humble Oil & Refining Co.'s No. 54 McGill, 4,725 ft., 55 bbl. in 12 hours, 7/64-in. choke.

Jim Wells County

Ben Bolt field: Heyser & Heard's No. 5 Garcia, perforated casing 5,288-93 ft., 157 bbl., 3/16-in. choke. Premont field: H. H. Howell and others' No. 2 Calanes, perforated casing 2,350-55 ft., 43 bbl. of oil, plus 38 bbl. of salt water, jetting. South Alfred field: Rowan & Hope's No. 7 Adams, perforated casing 4,691-96 ft., 122 bbl., ¼-in. choke. Henderson Coquat's No. 2 Pundt, perforated liner 4,920-25 ft., 74 bbl. in 18 hours, 5/32-in. choke. Smith & Mowinkle, perforated casing 4,903-9 ft., 133 bbl., ⅛-in. choke.

Nueces County

Agua Dulce field: Union Producing Co.'s No. 2 Harvey, perforated casing at 4,795-4,815 ft., 20 bbl., distillate, and 20,500,000 cu. ft. of gas, open flow. Richard King field: Southern Minerals Corp.'s No. 1-C King, 6,195 ft., dry and abandoned. South Clara Driscoll field: Magnolia Petroleum Co.'s No. 3 Johnson, perforated casing 5,092-96 ft., 143 bbl., ¼-in. choke.

Refugio County

La Rosa field: Coronado Corp.'s No. 3 Rooke, perforated casing 5,816-20 ft., gas well. Tomoconnor field: Quintana Petroleum Corp.'s No. 22-A Williams, perforated casing 5,893-5,901 ft., 607 bbl., ¼-in. choke.

San Patricio County

East White Point field: Plymouth Oil Co.'s No. 1 Toups, 6,000 ft., dry and abandoned. Republic Natural Gas Co.'s No. 36 Rachal, perforated casing 5,548-80 ft., 141 bbl., ⅛-in. choke.

Starr County

Rincon field: W. R. Davis Co., Inc.'s No. 1-A Davenport, perforated casing at 3,770-96 ft., 123 bbl. in 16 hours, 3/16-in. choke. W. R. Davis Co., Inc.'s No. 5-A Slick, perforated casing 4,195-4,208 ft., 256 bbl., 3/16-in. choke. W. R. Davis Co., Inc.'s No. 7-A Slick, perforated casing 4,212-28 ft., 252 bbl., ¼-in. choke. Sun Oil Co.'s No. 8 Olivares, 4,950 ft., 59 bbl., 9/64-in. choke. Sun Oil Co.'s No. 2-B Speer, perforated casing 4,950-53 ft., 280 bbl., 3/16-in. choke.

Victoria County

Victoria field: William Hardin's No. 2 Bass, perforated casing at 3,135-39½ ft., 184 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 3-A Simon, perforated casing 3,050-53 ft., 24 bbl., pumping.

Webb County

Adami field: Bridwell Employes Oil Co.'s No. 2-B Adami, 1,517 ft., dry and abandoned. Red Bank Oil

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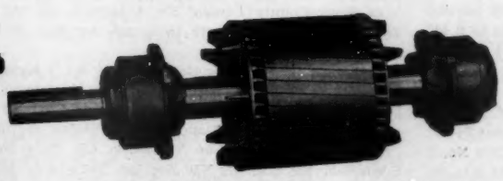

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Co.'s No. 4 Adami, sand 954-62 ft., 37 bbl., pumping. Glenn field: Interstate Minerals Corp.'s No. 47 Lopez, sand 2,158-64 ft., 88 bbl. in 3 hours, ¼-in. choke. Transwestern Oil Co.'s No. 1 Bruni, sand 2,170-72½ ft., 149 bbl., pumping. West Cole field: V. G. Schimmel's No. 6-A Benavides, sand 2,330-45 ft., 40 bbl., pumping.

Zapata County

Charco Redondo field: Edward Mathis' No. 96-Trevino, 1,500 ft., dry and abandoned. Escobas field: Dulup Oil Co.'s No. 18-A Trevino, sand 1,380-87 ft., 29 bbl., pumping. Kleiner & Hill's No. 16 Gutierrez, sand 1,247-70 ft., 4 bbl., pumping.

Illinois Fields

(Continued from Page 74)

No. 3 M. Rhodes, SE NE NE Section 27, 30-qt. shot at 1,560-70 ft., in Paint Creek sand, pumped 126 bbl. Carter's No. 4 L. H. Heckert, SE NW SE Section 8-7n-3e, Cypress sand at 1,439-78 ft., shot with 80 qt., pumped 108 bbl. Bialock & Walters and others' No. 1 Welker, SE NE NW Section 18, Cypress sand 1,494-1,501 ft., shot with 10 qt., pumped 75 bbl. Johnson's No. 5 Logue, Cypress at 1,534-53 ft., shot with 50 qt., pumped 85 bbl.

In Township 6n-3e Zephyr Drilling Co.'s No. 7 Smith, SW SE SW Section 31, Cypress at 1,611-24 ft., shot with 10 qt., pumped 115 bbl. Texas Co.'s No. 5 Neatherly, SE NW NW Section 6, Cypress sand at 1,522-39 ft., pumped 196 bbl. without a shot. Ohio Oil Co.'s No. 13 Schwarm, SW SW NW Section 31, Cypress at 1,583-60 ft., shot with 8 qt., pumped 195 bbl. Texas' No. 8 C. Wright, SE NW SW Section 31, Cypress at 1,584-96 ft., shot with 10 qt., pumped 245 bbl.

Jasper County

In Jasper County R. Aten's No. 1 Mendenhall, SW SW SE Section 17-8n-10e, was plugged and abandoned at 1,982 ft.; Waltersburg sand topped at 1,908 ft. Pure Oil Co.'s No. 1 Ida Warren-A, C W½ NE NW Section 33-6n-10e, Fredonia pay at 2,817-22 ft. and 2,835-37 ft., pumped 57 bbl. without a shot. Pure Oil Co.'s No. 1 Varner Consolidated, C E½ SW SW Section 30-5n-10e. McClosky lime pay at 2,850-55 ft., 5,000 gal. of acid, pumped 121 bbl. Pure's No. 1 M. Aldridge, C E½ NE NW Section 17-5n-10e, Fredonia pay at 2,790-2,801 ft., flowed 1,422 bbl., naturally, through 1-in. choke and 1,250,000 cu. ft. of gas, casing pressure was 225 lb. and tubing pressure 110 lb.

In Richland County Pure Oil Co.'s No. 2 Pasley Consolidated, SW NE NE Section 1-4n-9e, Fredonia pays at 2,828-32 ft. and 2,846-50 ft., acidized with 5,000 gal., pumped 248 bbl. Pure's No. 1 Bert Wilson-A, C W½ SE NE Section 12-4n-9e, pay at 2,918-24 ft., acidized with 5,000 gal., pumped 115 bbl. through 1-in. choke.

In St. Clair County J. D. Crittendon's SE cor. NW NW NE Section 33-1n-10w, Trenton lime top at 521 ft., hole full of water at 553 ft., total depth 569 ft., dry and abandoned.

In Clinton County O. W. Burroughs' No. 2 Knolhoff, C SW SE Section 2-1n-2w, Benoist sand at 1,327-34 ft., pumped 12 bbl. of oil and 80 bbl. of water. Bell & Pray's No. 3 Knolhoff, SE cor. SW Section 2-1n-2w, shot with 3 qt. at 1,318-26 ft., Bethel sand, pumped 132 bbl. Paul Moseback's No. 1 Robben, SE SW SE Section 5-1n-3w, an old well deepened from 2,431 ft. to 2,460 ft., was acidized with 2,500 gal., and pumped 155 bbl.

Wayne County

In Wayne County Duncan's No. 1 Skelton, C E½ NE NE Section 32-2n-8e, Fredonia lime pay at 3,029-34 ft., flowed 551 bbl. per day, naturally. Pure Oil Co.'s No. 2 Obrecht Consolidated, C W½ NW NW Section 9-1n-8e, Fredonia lime pays at 3,019-30 ft. and 3,045-55 ft., acidized with 5,000 gal., flowed 676 bbl. Pure Oil Co.'s No. 1 Thomas Consolidated, C W½ SE NW Section 9-1n-8e, Fredonia pay at 3,033-38 ft., acidized with 5,000 gal., pumped 53 bbl. of oil and 33 bbl. of water. Roach & Voyles' No. 2 Carlson-B, C W½ SW SW Section 3-2s-7e, pay at 3,095 to 3,249 ft., at intervals, acidized with 1,000 gal. and 2,500 gal. through perforations at 3,212-18 ft. and 3,243-49 ft., flowed 230 bbl.

In Wabash County Bander and others' No. 2 Seibert, SW NE NE Section 4-1n-13w, Fredonia pay at 2,697-2,701 ft., acidized with 3,000 gal., pumped 224 bbl. Mabee Drilling Co.'s No. 9 Bump, SW SW NW Section 9-2s-13w, Cypress sand at 2,431-54 ft., shot with 40 qt., pumped 123 bbl. Magnolia Petroleum Co.'s No. 2 Meredith, NE SW NE Section 30-2s-13w, Cypress sand at 2,473-85 ft., shot with 20 qt., pumped 10 bbl.

In Edwards County Noah & Morrison, NE NE NE Section 24-2s-10e, Waltersburg sand at 2,377-88 ft., pumped 190 bbl. without a shot. Superior Oil Co.'s No. 4 Woods, NW NW NW Section 19-2s-11e, Waltersburg sand at 2,354-61 ft., pumped 140 bbl.

In Washington County Magnolia Petroleum Co.'s No. 5 Barczewski, SW NE NE Section 15-3s-3w. Benoist sand at 1,260-65 ft., pumped 20 bbl.

In White County John Less' No. 2 Pollard, NE NE SE Section 29-3s-9e, McClosky lime at 3,416-26 ft., flowed 385 bbl. Superior Oil Co.'s No. 3 Greathouse, SW NW NE Section 4-5s-14w, McClosky lime at 2,890-99 ft., acidized with 3,000 gal., flowed 141 bbl. of oil and some water. Sun Oil Co.'s No. 4 Greathouse, SW NE NW Section 4-5s-14w, Ste. Genevieve lime top at 2,862 ft., total depth 2,910 ft., acidized with 1,000 gal., pumped and flowed 75 bbl. Shell Oil Co., Inc.'s No. 5 Austin, NE SE SW Section 24-6s-8e, Hardinsburg sand at 2,518-37 ft., shot with 5 qt., pumped 97 bbl. In the Storms pool Lain Oil & Gas Co.'s No. 2 Storms, NW NE SW Section 14-6s-9e, Waltersburg sand at 2,238-56 ft., shot with 20 ft., flowed 100 bbl.

In Randolph County Egyptian Tie & Timber Co.'s No. 1 Beattie, SW cor. Section 11-5s-5w, was dry and abandoned at 996 ft. Harriman's No. 1 John Lauber, C NW SW Section 15-5s-7w, reported abandoned at 600 ft.

In Hamilton County Kingwood Oil Co.'s No. 3 Wilson, SE NW SE Section 6-6s-7e, Cypress sand at 2,658-2,700 ft., shot with 40 qt., pumped 400 bbl.

In Jackson County Barton & Shipman's No. 1 Hall NW NW SW Section 8-9s-1w, McClosky at 1,958-60 ft and 1,990-2,000 ft., dry and abandoned.

Wildcat Progress

In Tazewell County Bartelmay's No. 1 Mathis, SW NW SW Section 24-25n-3w, was drilling at 485 ft. House's No. 1 Greening, NW NW SE Section 28-24n-2w, fishing at 1,235 ft.

In De Witt County Waharp Oil & Gas Co.'s No. 1 Short, NE cor. NE SW Section 6-20n-3e, total depth 1,260 ft., preparing to ream.

In Shelby County Walker's No. 1 Odell, C W½ SE NW Section 20-14n-2e, total depth 2,200 ft., on top of Chattanooga shale; lowering casing. Johnson Drilling Co.'s No. 1 Schaffer, CWL NW NE Section 27-10n-5e, total depth 1,964 ft., swaged casing and run cal-seal and lead wool to shut off water; will test on the pump.

In Clark County Snavely's No. 1 Scholfield, SE NE SE Section 6-11n-11w, drilling at 2,425 ft. Allen & Sherritt's No. 1 Harper, SE NW SW Section 5-11n-14w, drilling at 1,030 ft.; showing of oil at 830-50 ft., in Carper sand. Same operators' No. 1 Biggs, NW NW SW Section 9-11n-14w, total depth 2,450 ft.; preparing to clean out. Hartman's No. 1 Fain, SE NE SW Section 25-10n-14w, drilling at 120 ft. Strickler's No. 1 McFarland, NW NE SW Section 19-10n-13w, total depth 2,833 ft., plugged back to 2,820 ft., and is shut down. Dunn and others' No. 1 Metzgar, C NE NE Section 7-9n-12w, drilling at 1,310 ft. Snavely's No. 1 Freeman, NE cor. SE NW Section 4-8n-11w, Devonian at 2,647 ft., drilling at 2,657 ft.

In Cumberland County Ginther's No. 1 Kemper, SW NW SE Section 22-10n-10e, drilling at 460 ft.

In Montgomery County Brown's No. 1 Lipe, SW SW SE Section 28-10n-3w, total depth 1,932 ft., waiting for casing; Devonian lime topped at 1,915 ft.; (estimated).

In Knox County Lomax' No. 1 Nelson, SE SW NE Section 20-10n-1e of fourth principal meridian, drilling at 500 ft.

In Peoria County Blue Bell Oil Co.'s No. 1 Kyle, NE SW NW Section 17-8n-6e of fourth principal meridian, Devonian lime top at 887 ft., total depth 1,011 ft., plugged back to 920 ft. and set 4-in. casing at 764 ft.

In Fulton County Lee Township Oil Co.'s No. 1 Frederich, NE cor. SE NW Section 10-7n-1e of fourth principal meridian, drilling at 381 ft.

In Crawford County Robinson's No. 1-A Walters, SE NW SE Section 19-7n-12e, drilling at 1,080 ft.

In Jasper County Pure Oil Co.'s No. 1 Boos Consolidated, C E½ SE SW Section 28-6n-10e, total depth 2,875 ft., plugged back to 2,788 ft.; perforated with 11 shots at 2,784-85 ft.; tested 400 ft. of salt water in 30 minutes; perforated with 12 shots at 2,764-65 ft., salt water rose to within 200 ft. of the top of the hole; a squeeze job followed and plug was drilled out to 2,811 ft.; oil rose in the hole 500 ft., and the crew was testing. Pure Oil Co.'s No. 1 Albright, C E½ NE SE Section 28-6n-10e, total depth 2,939 ft.; fair showing of oil in sand at 2,740-56 ft.; saturated sand at 2,798-99 ft.; Fredonia lime was topped at 2,798 ft. Pure Oil Co.'s No. 1 Redman, C E½ NW NW Section 16-5n-10e, Devonian lime top at 4,316 ft., drilling at 4,421 ft.

In Madison County Wilson's No. 1 Danderman, SW cor. Section 1-5n-6w, total depth 1,880 ft., about 53 ft. below the top of the Devonian lime. It may be abandoned. B. G. & M.'s No. 1 Isenberg, SE NE NW Section 21-5n-6w, drilling at 150 ft. Jennings' No. 1 Mossiman, SE SW NW Section 22-4n-5w, shut down for orders at 3,275 ft.

In Bond County Seaboard Oil Co.'s No. 1 Trumblay, NW SE SE Section 22-5n-3w, drilling at 365 ft.

In Fayette County Sol Simon made a location for No. 1 Woolin, C NW NW SE Section 19-5n-3e. This is a correction.

In Crawford County Fuller and others' No. 1 Barnes, NW NE SW Section 7-5n-11w, drilling at 616 ft. Bell Brothers' No. 1 Wampler, C E½ SE SW Section 1-5n-12w, drilling at 2,500 ft.

In Lawrence County Walter Payne's No. 1 Monjar, SW NE NW Section 28-4n-11w, fishing for tools at 1,695 ft. Scott Grey's No. 3 fee, C W½ SW Section 18-4n-10w, shut down for orders at 1,577 ft. Harlan Kays was moving in material for No. 1 Griggs, SW NW SE Section 12-3n-3w. W. L. Dorsey's No. 1 Vandermost, SE SW NW Section 2-2n-12w, was shut down for orders at 1,834 ft. Clark B. Hill's No. 1 Wood, NE SE SE Section 21-2n-14w, a mystery well, is estimated to be below 2,650 ft., and drilling.

In Richland County Pure Oil Co.'s No. 1 Krapp Consolidated, C S½ NW SE Section 6-4n-10e, drilling at 2,739 ft.

In White County Lavender and others' No. 1 McCullough, SW cor. SE NE NW Section 20-3s-8e, drilling at 3,022 ft.

In Edwards County Robinson and others' No. 1 Al Jenner B, NE NE SE Section 26-2n-10e, drilling at 1,295 ft. S. D. Ford's No. 1 Marshall, SW NE NE Section 2-1n-10e, drilling at 2,260 ft. Noah & Morrison's No. 1 Wick, C N½ NE SW Section 24-2s-10e, total depth 3,111 ft.; treated with 2,500 gal. of acid; well flowed 50 bbl. by heads; will test on the pump. Barnes & Wickwire's No. 1 Broster, NE NE NE Section 3-3s-14w, shot with 7 qt. at 2,594-2,600 ft., shut in 12 hours, and water rose in the hole 150 ft.; cleaning out.

In Brown County Kagy's No. 1 Ripley, NE NW SW Section 33-1n-2w of fourth principal meridian, drilling at 140 ft.

WESTERN KENTUCKY

OWENSBORO, Ky., June 10.—Three small oil wells and nine dry holes were completed in western Kentucky last week. Seven new operations were announced. Following are the completions and first reports on new work:

Breckinridge County, Pattyville district: Gardner Drilling Co.'s No. 1 M. Tate, drilling at 150 ft.

Butler County, Huntsville district. J. C. Miller, trustee, and Tydings' No. 1 M. J. Arnold, location. O. D. Vickers and Ross' No. 3 J. D. Heck, dry hole at 700 ft.

Daviess County, Utica district: J. C. Miller, trustee, and others' No. 3 J. B. Baird, dry hole through McClosky lime; total depth 1,710 ft. Smith & Tombs' No. 1 Utica Mill lot, dry hole at 1,500 ft. Handyville district: Master Oil Co.'s No. 6 E. W. Richmond, spudding in. Masonville district: J. C. Miller, trustee, and others' No. 1 J. W. Ruby, dry hole at 1,665 ft. Thurston district: Jim McCummings' No. 1 G. W. Thompson, dry hole at 1,591 ft.

Hancock County, Cloverport district: W. J. Flesher's No. 2 C. A. Johnson, dry hole through McClosky lime; total depth 635 ft. Maceo district: Jack Cox' No. 2 L. R. Waitman, dry hole through Bethel sand; total depth 1,022 ft.

Henderson County, Corydon district: Sun Oil Co.'s No. 4 Corydon unit, dry hole through St. Louis; total depth 2,752 ft.

McCracken County, Reidland district: Pascal Pass' No. 1 Shepherd, dry hole, with an oil showing in Trenton lime; total depth 2,013 ft.

McLean County, Island district: J. Roy Mace's No. 1 Minnie Gross heirs, location. South Penn Oil Co.'s No. 1 John Kirtley, moving in. South Penn Oil Co.'s No. 11 H. K. and John Kirtley, location.

Ohio County, Adaburg district: Dr. G. W. Hardie's No. 8 Nannie Bean, completed as a key well through Jett sand; total depth 620 ft. Pleasant Grove Church district: Eureka Oil Co.'s No. 5 W. H. Davidson, 10 bbl. from Jett sand; total depth 296 ft. C. S. Harmon's No. 7 W. J. Tuttle, 10 bbl. from Jett sand 278-99 ft.; total depth 300 ft. P. P. Murphy and others' No. 5 Floyd Walker, 20 bbl. from Jett sand; total depth 279 ft. Fordsville district: Henry Scholl and others' No. 3 Ira Hale, 10 bbl. a day, Barlow sand 496-515 ft.; total depth 525 ft. Oaks district: Ed Day and others' No. 3 E. S. Lane heirs, dry hole through Jett sand; total depth 301 ft. Buford district: Owen & Borders' No. 5 G. C. Whittaker, abandoned location.

Eastern Field Report

By STAFF CORRESPONDENT

Will Seek Deeper Pay in No. 2 Summit Hotel, in Fayette

PITTSBURGH, Pa., June 10.—On Chestnut Ridge in South Union Township, Fayette County, Pennsylvania, New Penn Development Co., William E. Snee, and others are building rig to deepen No. 2 Summit Hotel (Heyn), south and slightly west of the discovery well. The present depth of No. 2 is 6,768 ft., with the top of the cherty zone of the Onondaga lime at 6,686 ft. (surface elevation 2,464 ft.) When completed the open flow was gaged at 3,555,000 cu. ft. a day with the heaviest pay at 6,767 ft. Last year No. 1 was deepened with a resultant total volume in excess of 5,000,000 cu. ft. a day at a lower level in the cherty zone. No. 2 has declined in production from the upper pays, in the Onondaga lime, but it is believed there are lower pays to be tapped.

SOUTHEAST OHIO

No large wells were reported from Southeast Ohio during the week. In Guernsey County George E. Jewell and others completed No. 2 R. W. Robinson, Section 16, Wills Township, in the second Cow Run sand at 481 ft. It produced 6½ bbl. the first day without a shot.

In Jefferson County L. L. Sapp, drilling on the Isaac Saltzman heirs in Section 35, Saline Township, completed a 1-bbl. well in Injun sand at 1,000 ft. In Section 17, Island Run Township, Harold and Harry Kallermier completed a ½-bbl. well on the Alban and Kallermier farm, in Berea sand at 1,385 ft.

In Licking County Hoover Brothers and others, on the Fred Tobes farm, Section 7, Perry Township, have a well in the Clinton sand at 3,010 ft. with a fair showing of oil and gas before the shot. In Section 2, Mary Ann Township, Guy T. Shrider and others drilled No. 5 I. N. Porter through the Berea sand to 583 ft. and it was dry.

In Morgan County, 1 mile southwest of Chesterhill, in Marion Township, North Oil Co. completed No. 3 S. C. Allen in first Cow Run sand at 447 ft. It produced 12 bbl. the first day after a shot.

In Muskingum County Wilking Co. completed a test on the Amertroutes Wilson farm, in Licking Township, in the Clinton sand at 3,293 ft. It gaged 90,000 cu. ft. of gas a day along with 5 bbl. of oil the first day after shot.

In Perry County J. L. Swingle completed a small well on the Ricketts heirs farm in the N½ Section 18, Salt Lick Township, in the Clinton sand at 3,116 ft. It will make a 2 bbl. pumper.

SOUTHWEST PENNSYLVANIA

In Indiana County, Pennsylvania, T. W. Phillips Gas & Oil Co. completed a fair gas well on the E. B. Brandon farm in Washington Township in the Hundredfoot sand at 1,468 ft. It gaged 1,400,000 cu. ft. a day. In this township same company is drilling No. 1 Louisa Black at 1,938 ft. and reaming at 1,155 ft. in No. 1 Lavina Richard, which struck salt water at 1,070 ft.

In Brush Valley Township, Indiana County, the same company drilled a test on the George Smolar farm through the Bradford sand to 3,476 ft., and it was dry. This company is also drilling on the Jesse A. Boyer farm, same township, at 657 ft. In Young Township the company drilled No. 2 R. & P. Coal Co. through Bradford sand to 3,767 ft., and it was dry. In Center Township same company is drilling at 1,129 ft. in No. 3 R. & P. In Washington Township same company is drilling No. 1 Henderson at 2,590 ft. Peoples Natural Gas Co. made a location for a test on the Israel Miller farm and J. Cloid Rinn is building the rig for No. 2 Perdons heirs.

Armstrong-Clarion-Westmoreland

In Cowanshannock Township, Armstrong County, Equitable Gas Co. is building a rig for No. 3 G. W. Smeltzer and the Peoples Natural Gas Co. is drilling No. 2 Lee Bell at 2,390 ft. In Plum Creek Township same company is setting a machine for No. 2 John Shetler and William McCollins is rigging up No. 2 Add Reefer.

In Kittanning Township, Armstrong County, Edward Young is drilling No. 3 Hugh Blair at 1,998 ft. and H. C. Judson's No. 1 W. J. Gray at 3,129 ft. In Red Bank Township John Wray and others are drilling No. 1 O. B. Geist at 2,850 ft. and in Mahoning Township No. 1 King Shaffer at 450 ft. In Wayne Township, R. C. Galbreath Co. has spudded in and started drilling a test on the John Dormire farm.

In Westmoreland County Kiski Valley Gas Co. is drilling No. 1 J. F. Wolford in Bell Township at 760 ft. In Allegheny Township Hyde Park Foundry Co. is down 1,801 ft. deepening No. 1 Andrew Grinder. In Washington Township Peoples Natural Gas Co. is drilling No. 1 A. J. Idings at 2,017 ft.

Washington-Fayette-Greene

In South Franklin Township, Washington County, Foley & Williams completed No. 1 Franklin Clark at 1,365 ft. with the gas sand topped at 1,206-61 ft. and 56,000 cu. ft. of gas a day at 1,251 ft. In this township A. V. Lewis has rig standing for No. 3 B. A. Bonham.

In Amwell Township, Washington County, Equitable Gas Co. is drilling at 1,641 ft. in No. 1 R. Foster, with the Little Dunkard sand at 1,109-1,206 ft., and a show of oil at 1,188 ft. R. W. Clovis and others are drilling No. 2 W. S. McClenathan at 500 ft. Arthur Shivers and others are rigging up No. 1 Frank Lyseck. In Somerset Township Equitable Gas Co. is drilling No. 1 W. W. Wright at 400 ft.

In Menallen Township, Fayette County, Wahler Powers Oil & Gas Co. is drilling No. 2 Shamrock Farms Co. at 1,175 ft. In Nicholson Township Duquesne Gas Co. is drilling No. 1 I. Cover at 1,800 ft. In German Township J. H. Carnell is drilling No. 1 Marion Kurzankuski at 1,156 ft.

In Richhill Township, Greene County, O. I. Dille and others are rigging up No. 2 Madison Hughes. In Wayne Township the Waynesburg Home Gas Co. is rigging up No. 1 W. A. Elms. In Whiteley Township the Carnegie Natural Gas Co. is rigging up No. 1 J. B. Gordon to deepen.

In Morris Township, Greene County, Hiawatha Oil Co. is drilling No. 1 Young heirs at 1,996 ft. and Romney Rutan and others No. 1 John B. Carter at 1,780 ft. In Greene Township A. V. Lewis and others are down 865 ft. in No. 1 Smith and Pethtel. In Center Township J. B. Orndoff is drilling No. 3 Mattie I. Scott at 675 ft. Equitable Gas Co. is deepening No. 1 Jesse Stewart and is drilling at 2,964 ft.

In Middlesex Township, Butler County, Larkin and others are testing No. 2 G. Jeuther at 2,770 ft., where it shows 25,000 cu. ft. of gas a day with a rock pressure of 120 lb. In this township Waltman Brothers are drilling No. 1 M. W. A. Mahan at 1,300 ft. In West Deer Township, Allegheny County, Dwight Cambell is drilling No. 1 M. Sterling heirs at 1,300 ft. and Larkin and others No. 2 C. H. Church at 1,310 ft.

Deep Tests

On Chestnut Ridge in South Union Township, Fayette County, Peoples Natural Gas Co. is drilling No. 2 Piedmont Coal Co. at 3,532 ft., with casing set at 3,214 ft. and an 8-in. hole now being carried. No water was found between the surface string and 3,214 ft. On Laurel Ridge in Stewart Township, Fayette County, New Penn Development Co., William E. Snee, and others are drilling at 7,266 ft. in the wildcat on the Gregg L. Neel farm. Work was delayed with caving. In Maryland, on the Accident dome in Garrett County, these operators are down 6,750 ft. in the test on the Humberson farm.

WEST VIRGINIA

During the week two oil wells were reported. In Clay County the Virginian Gasoline & Oil Corp. completed No. V1284 Brown, Swann, & Goshorn in Henry district at 1,841 ft., the Injun sand, and it is good for 6 bbl. a day.

In Gilmer County the McCall Drilling Co. completed No. 2 Furr and Turner in Center district in the Keener sand at 1,777 ft. and it is good for 20 bbl. a day.

Gas Wells

Among the recent completions of the Pittsburgh & West Virginia Gas Co. in Braxton County are listed the following: No. 3 Ed L. Boggs, Salt sand 1,542 ft., 3,000,000 cu. ft. a day; No. 2 N. B. Fear, Injun sand, 1,867 ft., 459,000 cu. ft. a day; No. 3 G. B. Howell, Injun sand 2,102 ft., 131,000 cu. ft. a day; No. 2 G. B. Fisher lime, 1,200 ft., dry. All are in Birch district.

In Gilmer County Bowser Oil & Gas Co. drilled a test on the W. H. Simmons and John Heckert heirs farm in Troy district through the Injun sand to 1,700 ft. and it was dry.

In Pleasants County Jewett Gas Co. completed a test on the Jewett heirs farm in McKim district at 1,940 ft., the Squaw sand, and it gages 75,000 cu. ft. a day.

In Upshur County the Pittsburgh & West Virginia Gas Co. drilled a test, No. 7753, on the H. F. Brady farm in Meade district to 4,233 ft. with the Big lime at 1,470-1,560 ft.; Injun, 1,560-1,612 ft.; Benson sand, 4,206-26 ft.; show gas, 4,208-10 ft. It will be abandoned.

Oriskany Gas Field

In Poca district, Kanawha County, Godfrey L. Cabot, Inc., completed No. 4 Putnam Co. at 5,212 ft. and it has a volume of 12,276,000 cu. ft. a day from the Oriskany sand without a shot. In this district this operator is completing No. 3 J. T. Bonham in the Oriskany sand with a volume of 1,900,000 cu. ft. a day at 4,822 ft.

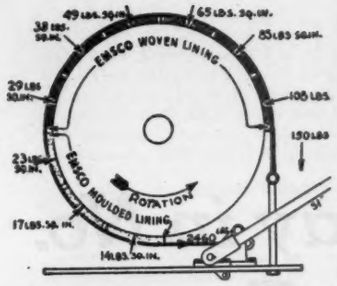
The final test of United Carbon Co.'s No. 824 Rosie E. Scott and others was 4,919,000 cu. ft. a day, with the Oriskany topped at 5,035 ft., total depth 5,072 ft. The final test of the Columbian Carbon Co., No. 1 V. E. King, was 1,220,000 cu. ft. a day after shot, with the Oriskany at 4,965 ft. and total depth 5,046 ft.

In this district three new locations were made. In Poca district Columbian Carbon Co. has a location for a test on the Donald L. Cork and others farm, elevation 692 ft.; and on the George W. Spencer and others farm, elevation 742.7 ft.; Linden Drilling Co., on the J. W. Harding farm, elevation 682.3 ft.

Here the United Fuel Gas Co. is drilling No. 4878 J. P. Bailey at 3,952 ft. and No. 4880 Allie Pritt and others at 1,325 ft.; Godfrey L. Cabot, Inc., No. 3 D. Holmes Morton at 3,450 ft. and No. 945 Ida P. Gibson and others at 1,814 ft.; United Carbon Co. No. 830 O. B. Boggess at 1,260 ft. and No. 831 Mary E. Carney and others at 400 ft.; Columbian Carbon Co. No. 1 Joseph Hughart at 4,895 ft., No. 1 D. W. Taylor and others at 1,658 ft., and No. 1 Fay E. Hughart at 150 ft.; West Virginia Gas Corp. No. 038 Elizabeth Thaxton and others at 4,880 ft. and No. 041 Samuel H. Fields at 1,200 ft.; Poca Fork Oil & Gas Co. No. 1 Anna M. Jones at 652 ft.

In Jackson County Joe Rubin and others shut down with engine trouble at 3,245 ft. in the wildcat on the C. E. Andricks farm in Grant district.

(Continued on Page 107)



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Among the Drilling

BOSWORTH Drilling Co., Odessa, Tex., is moving in materials for a 5,500-ft. wildcat to be drilled for Amerada Petroleum Corp. and Plymouth Oil Co. northeast of the Wasson field in Yoakum County, West Texas. The test is to be No. 1 Brownfield, SW Section 620, Block D, Gibson Survey, about 5 miles east of a wildcat producer brought in last year by Shell Oil Co., Inc., on lands owned by Waples-Platter Co.

JOHN O'NEIL, drilling contractor of Wichita Falls, Tex., has been awarded the drilling of a recently staked 5,500-ft. wildcat test which will attempt to spread the productive limits of the Wasson field in Yoakum County, West Texas. It will be drilled for High Point Oil Co. (L. C. Turman, Fort Worth) and is No. 1 E. S. Smith, SE cor. Section 703, Block D, Gibson Survey, ¾ mile out from production.

RHODES Drilling Co., Dallas, Tex., is preparing to move in materials for a 7,000-ft. wildcat test to be drilled for Walter Gant, Ardmore, Okla., in the extreme southern part of Montague County, North Texas. The test is Gant's No. 1 Will Laird, R. T. Millard Survey, Abstract 70, about a mile north of the Wise County line and about 7 miles west of the town of Sunset.

HELMERICH & PAYNE, INC., Tulsa, has been let the drilling contract for one of Atlantic Refining Co.'s recently staked wildcat tests in Andrews County, West Texas, and Thompson Drilling Co. has the other contract. Helmerich & Payne are moving in materials for No. 1 University, NE cor. Section 23, Block 11, University Lands Survey, 2 miles south of an active wildcat being drilled by Atlantic and Helmerich & Payne, jointly. Thompson Drilling Co. will be the contracting firm at the No. 1 University which offsets to the north the active test. It is located in the SE cor. Section 2, Block 11, University Lands Survey. The former will be drilled with rotary to 5,300 ft. while the north offset test will be carried only to 4,300 ft.

FALCON-SEABOARD Drilling Co. is preparing to make a production test of Pure Oil Co. and Sal Vieja Oil Co.'s No. 1 Garcia Land & Livestock Co., a wildcat located in Cameron County, Texas. The well was drilled to a total depth of 10,307 ft., and preparations are being made to test at approximately 8,500 ft. where a gas and distillate sand was logged by an electrical survey. The completion of this well would open the first field for the county. In Iberville Parish, Louisiana, drilling was started on the company's No. 1 Folse.

GRACE & WOODS, Wichita Falls, Tex., drilling contractors, have the contract for deepening an old test in Denton County, North Texas, to the 6,000-ft. level. It will be deepened for Seitz-Comegys-Seitz and is No. 1 Fred Freeman, located in the M.E. P.&P. Survey, Abstract 1470, about 5 miles west of the town of Denton. It has stood temporarily abandoned at 3,500 ft. for some time.

AL BUCHANAN Drilling Co. is drilling below 5,600 ft. in H. R. Cullen's No. 1 J. L. Washburn, a projected 8,500-ft. wildcat located in La Salle County, Texas. The well is reported to have shown favorable indication on a drill-stem test at approximately 5,400 ft.

ROWAN Drilling Co. is drilling below 9,700 ft. in the company's No. 1 Hubbard, a wildcat located in the Liverpool area, Brazoria County, Texas. No additional showings have been reported since 9,100 ft., where a drill-stem test recovered 128 ft. of mud and distillate. Drilling was started on another operation in the Venice field for Tide Water Associated Oil Co.

W. G. RAY Drilling Co., Shreveport, La., has contracted to drill E. L. Martin's No. 1 Newell Mineral Lease Co., a wildcat in Scott County, Mississippi. In addition the company is planning to deepen the former W. E. Hall's No. 1 Irby Charping, an Issaquena County wildcat which was shut down at 5,020 ft. several days ago. The test will be carried to 7,500 ft., according to reliable reports. Following completion of the Scott County wildcat, Ray will move the rig to one of his own locations in Madison County.

WOLVERINE Drilling Co. was preparing to acidize William F. Malow's No. 2 Ernest in Section 27-8n-7e, St. Clair County, Michigan. An oil show was had in the Monroe at 1,247-50 ft. and 5-in. casing cemented preparatory to testing and acidizing.

CHRISTIAN-CARPENTER Drilling Co. is nearing the contract depth of 7,500 ft. at Joyce Richardson's No. 1 Marks, a wildcat located in the Ogburn area, Harris County, Texas. Two drill-stem tests during week showed possible production, and casing is expected to be cemented for a series of production tests after the contract depth has been reached. Another rig

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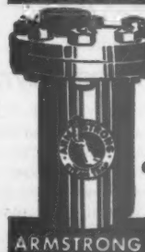

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HOUSTON, TEXAS

Contractors

is operating in the county for company's joint wildcat test with John Mayo in the Cypress area.

LOFFLAND BROTHERS are attempting to extend the Wilson Creek field, Matagorda County, Texas, as preparations were made to complete Barnsdall Oil Co.'s No. 1 Stoddard estate at a total depth of 10,298 ft.

TWIN Drilling Co., Tulsa, reported drilling below 1,000 ft. with rotary tools on the Gulf Refining Co.'s No. 2 Bronkema, SE NW NW Section 23-7n-13w, Tallmadge Township, Ottawa County, Michigan.

MABEE Drilling Co., Tulsa, got a good Cypress sand well in its No. 9 Bump, SW SW NW Section 9-2s-13w, Wabash County, Illinois. The pay was encountered at 2,431-54 ft. and was shot with 40 qt. of nitroglycerin.

AMERICAN Drilling Co., 608 Second National Bank Building, Saginaw, Mich., was preparing to drill its No. 2 Anna Snip, SE SW NW Section 23-7n-13w, Ottawa County, Michigan. Company tools will be used.

LIMA Drilling Co. has contract to drill J. V. Wicklund Development Co.'s No. 1 W. Smith, SW SE SE Section 21-1n-7e, Oakland County, Michigan.

CROSBY Drilling Co. cored additional sands in Texas Co.'s No. 1 Pierce, a wildcat located in the Blessing area, Matagorda County, Texas, and drill-stem testing showed favorable indications. The well is drilling ahead below 8,494 ft. Another rig is on location in Calhoun County for Ray N. Ranger's No. 1 W. R. Sells, a projected 9,000-ft. wildcat.

ZEPHYR Drilling Co., Tulsa, completed its No. 7 Smith, SW SE SW Section 31-6n-3e, St. James field, Fayette County, Illinois, for 115 bbl. from the Cypress sand after a 10-qt. shot at 1,611-24 ft.

CRESCENT Drilling Co. of Monroe, La., is completing a major Smackover lime discovery in Lafayette County, South Arkansas. The well, Atlantic Refining Co.'s No. 1 Bodcaw Lumber Co., has 25 ft. of gas section and 82 ft. of oil section in the porous oolitic lime in the upper part of the formation.

JOHNSON Drilling Co. was having trouble obtaining a water shutoff on its No. 1 Schaffer, CWL NW NE Section 27-10n-5e, Shelby County, Illinois. Total depth was 1,964 ft. and cal-seal and lead wool have been placed in the hole preparatory to testing on the pump.

RILEY BROTHERS Drilling Co. was about to complete western Michigan's first flowing discovery of the year for H. C. Nelson on his No. 1 Peters, SE SE NE Section 8-4n-14w, Allegan County. The well flowed 20 bbl. per hour naturally from Traverse lime at 1,476-80 ft.

TROUP & MOORE Drilling Co., Oklahoma City, have the contract for a 3,100-ft. wildcat test being drilled by N. A. Sanders, Frank Dennis and others at No. 1 Bowie, NW NE SE Section 3-4n-3e, in the Stratford area, northeastern Garvin County, Oklahoma.

Daylight crew of Kiowa Drilling Co., in the Salem field of Illinois. The men are Wilton Ray, Alvin Moeling, Gilbert Halsey, Homer Mitchum, Fred Dewel and Austin J. Boundy. Illinois manager and partner in the concern. The drilling rig in the background uses a 94-ft. mast for depth up to 3,400 ft.

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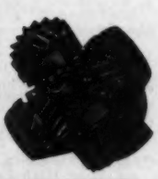

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Rocky Mountain Area

By

T. R. INGRAM

Larger Demand for Montana Crude Increases Field Work

DENVER, Colo., June 10.—Principal activity in the northern Rocky Mountain area was in Montana. The International Refining Co. is now taking 100 per cent of the production from connected wells and as a result drilling is on the increase with 15 active operations under way and 3 completions for the week. Cut Bank had two completions, the best being Texas Co.'s No. 5 Curran for 200 bbl. per day.

Wyoming had only one completion, the MacKinnie Oil & Drilling Co.'s No. 2 Union Pacific, on the Horne Valley structure, which drilled into a fault and was abandoned at 1,118 ft., without reaching the objective Sundance.

New operations were confined to one, for the Ohio Oil Co. in Lance Creek.

NEW MEXICO

A deep test in the Skelly area, Gulf Oil Corp.'s No. 1 Amanda E. Drinkard, originally contracted to 5,000 ft. and located in NW SE Section 25-22-37, found showings of sulfur water at 3,958 ft. and will be plugged back to 3,945 ft. for a test of a horizon that indicated commercial production. The test found soft gray lime showing oil from 3,794 to 3,804 ft. and the operator is preparing to shoot and attempt completion.

A semiwildcat in Eddy County was started by Brewer Drilling Co. as its No. 1 Creek, in NE NE Section 23-18-30. It is ½ mile east of the Kersey Co.'s No. 1 Creek which opened a new producing area southeast of the Loco Hills field last year. Spudder was being moved to the location for immediate drilling.

Eddy County

Sanders Bros.' No. 1 De Temple, NW NW Sec. 27-19-31. Loc.
Bassett & Birney's No. 1 Platt, SW cor. Sec. 26-18-26. Old failure being D.D. below 2,342 ft. Drlg. 2,690 ft.
Max Weathers' No. 1 Flood, SE SE Sec. 24-18-23. Drlg. 1,600 ft.
M. Yates, Jr.'s No. 1 McCall, SW SW Sec. 24-18-26. Drlg. 880 ft.
Jack Harris' No. 1 Josey, SW SE Sec. 19-20-23. S.D.O. 235 ft.
Schumacker's No. 1 Levers, NE NE Sec. 33-16-29. Drlg. 1,100 ft.
J. B. Mulcock's No. 1 Etz, 660 ft. from S and W lines, Sec. 25-16-30. Drlg. 1,440 ft.
Everts' No. 1 Greer, SE cor. Sec. 31-16-31. P.B. 3,690 ft.; swb. 5 B.O.P.D. for 7 days; tstg.
Everts & Moran's No. 1 Ranuz, NE NW Sec. 18-23-26. T.D. 1,373 ft. U.R.
J. B. Cowden's No. 1 State, SW SE Sec. 3-17-29, between Root field and High Lonesome field. R.U. mach.
G. A. Grober's No. 1 Wright, 1,080 ft. from N and W lines, Sec. 25-18-28, S.O.&G. 1,382 ft.; est. 10 B.O.P.D.; fsg. 2,226 ft.
G. M. Cone's No. 1 Hare, NW NW NE Sec. 14-16-28, 3 mi. W of High Lonesome field. Drlg. 1,735 ft.
Artesia Drlg. Co.'s No. 1 Hoffman, SE SE SE Sec. 14-17-24. Est. 1,250,000 cu. ft. at 938 ft.; S.D.R. 1,095 ft.
L. E. Elliott's No. 1 Elliott, SE SE SE Sec. 24-17-29. S.S.O. 3,255-75 ft.; made 1 B.O. and 4 B.W. in 24 hrs. Drlg. 3,897 ft.
Frederick's No. 1 Reed, 1,980 ft. from S and W lines, Sec. 28-24-28. O.W.D.D.; top gas sand 2,891 ft.; est. 2,000,000 cu. ft. gas; casing set at 2,873 ft. and collapsed at 2,200 ft.; recmtd. csg.; W.O.C.
Wilder's No. 1 Young, 1,650 ft. from N and W lines, Sec. 23-16-29. S.G. 1,805 ft.; S.D.O. 3,095 ft.
Sam Montgomery's No. 1 Kaltenbach, 330 ft. from N and W lines, Sec. 24-16-27. S.D.O. 2,243 ft.
Thomas & Bowers' No. 1 H. W. Etz, 2,310 ft. from N and 330 ft. from W lines, Sec. 13-16-30. T.D. 3,744 ft.; 2,000 ft. F.I.H.

Dona Ana County

Picacho O. & G. Co.'s No. 12 Armstrong, Sec. 15-23s-1w. S.D.O. 2,620 ft.
Slack & Mahres' No. 1 Simmons, Sec. 35-22s-5e. T.D. 2,785 ft.; S.D.O.

Chaves County

Farrar-Jones-Cunningham's No. 1 Samples, 330 ft. from S and E lines, Sec. 1-7-27. S.D.R. 98 ft.

Luna County

O. D. Berry's No. 2 Berry, Sec. 33-22-10. S.D.R. 291 ft.

Lea County

Gulf Oil Corp.'s No. 1 Amanda E. Drinkard, NW SE Sec. 25-22-37, in Skelly area, 5,000-ft. test. S.S.G. 3,794-3,804 ft.; made 5 gal. oil hourly T.D. 3,958 ft.; prep. P.B. 3,545 ft.; tstg.
J. D. Barefield's No. 2 Stroup, 1,980 ft. from N and E lines, Sec. 12-18-32, S.D.O. 4,055 ft.; S.S.O. 4,040-50 ft.; 1 bailer oil after 2-day shut-in.
Stogner & Weiner's No. 1 State, SE SE Sec. 30-12-32. Fsg. 3,385 ft.
Stanley & Weiner's No. 1 Saunders, NE NE Sec. 20-21-38. R.U.R.

Otero County

Ernest's No. 1 Ernest, Sec. 20-25-7. S.D.O. 3,204 ft.; S.S.G. 3,180 ft.
Otero Oil Co.'s No. 1 State, SE NW Sec. 5-22-10. S.D.O. 825 ft.

Socorro County

Joiner Oil Corp.'s No. 1 Belen grant, 2,310 ft. N and W lines, Sec. 16-3-1. S.D.O. 845 ft.

SOUTHEAST NEW MEXICO COMPLETIONS

Eddy County

In the Loco Hills field Tallmadge & Cowell's No. 1 State, SW NW Section 16-18-29, pumped 18 bbl. in 8 hours from pay from 2,474-2,535 ft. after shot. T. B. Knox's No. 1 State, NW NE Section 14-18-29, plugged and abandoned at total depth of 2,875 ft. Dixon & Yates' No. 3-A Saunders, SW NW Section 12-18-29, plugged and abandoned at total depth of 2,717 ft.

In the Leonard field G. D. Key, Jr.'s No. 1 Key, SE SE Section 11-17-29, 2,514 ft., 160 bbl. in 12 hours flowing through open tubing after shot. Grayburg Oil Co.'s No. 5-A Keely, NE SE Section 24-17-29, 3,022-3,130 ft., 28 bbl. daily flowing through open tubing after acid.

A wildcat test, Mac. T. Anderson's No. 1 J. T. Neeson, SW NW Section 4-16-30, plugged and abandoned at total depth of 2,925 ft.

Lea County

In the Arrowhead field Continental Oil Co.'s No. 7-J-2 State, NW SE Section 1-22-37, flowed 240 bbl. in 2 hours through open tubing, naturally, from pay from 3,735-81 ft. Gulf Oil Corp.'s No. 10-E Mattern, SE SW Section 1-22-36, flowed 1,248 bbl. in 18 hours through open tubing, naturally, from pay from 3,720-90 ft. Ohio Oil Co.'s No. 18 State-McDonald, SE NE Section 13-22-36, flowed 192 bbl. daily, naturally, through open tubing from pay from 3,721-75 ft.

In the Penrose field J. C. Clower's No. 6-B Christmas, SE NW Section 28-22-37, flowed 85 bbl. daily through 24/64-in. choke on tubing after shot in pay from 3,570-3,680 ft.

In the Lynn field Continental Oil Co.'s No. 4-A-28 Lynn, SW SE Section 28-23-36, flowed 48 bbl. in 2 hours through ¾-in. choke, naturally, from pay from 3,637-50 ft.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc.'s No. 2 North Albuquerque, NE SE NW Sec. 19-11n-4e. S.D.O. 5,024 ft.; cont. depth.
Norins Realty Co., Inc.'s No. 2 Pajarito, Sec. 22-9n-1e. S.D. 2,000 ft.

San Juan County

Continental Oil Co.'s No. 106 Rattlesnake, SW SE SE Sec. 12-29n-19w. Drlg. 910 ft. in wtr. sd.
Claude Carroll's No. 1 Cornell, C SE NE Sec. 11-29n-12w. T.D. 750 ft.; fsg.
Kutz Deep Test, Inc.'s No. 1 Govt., C NW NW Sec. 28-28n-10w. Drlg. 1,215 ft.
Continental Oil Co.'s No. 100 Rattlesnake, SE NW NE Sec. 2-29n-19w. S.D.O. 7,407 ft.

COLORADO

Custer County

Henry Donnelly's No. 1 Hodges, SE NE Sec. 26-21s-69w. Dpnd. to 1,662 ft.; S.D. for csg.

El Paso County

F. F. Hintze et al's No. 1 State, CSL SE SE Sec. 16-11s-66w. S.D. 1,375 ft.; temp.

Fremont County

John Lippis' No. 1 fee, C.T. in south Florence on farmout from Continental Oil Co., C SW SW Sec. 11-19s-70w. M.I.M.

Jackson County

W. N. W. Corp.'s No. 1 North Park Coal, NW NW Sec. 18-9n-78w. T.D. 4,350 ft.; U.R. 8¼-in. for W.S.O.

Huerfano County

Ira E. Miller et al's No. 3 Hamilton, SE SE NW Sec. 20-29s-67w. T.D. 1,365 ft.; R.U. to res.
I. E. Siderman-White et al's No. 1 Martinez, C SW NE Sec. 33-26n-67w. Drlg. below 1,400 ft.

La Plata County

Nick Spatter's No. 1-X Bryce, SW SW Sec. 31-33n-9w. Drlg. 3,900 ft.

Larimer County

Continental Oil Co.'s No. 1 Whitaker, NE NW NW Sec. 30-8n-68w. Drlg. 4,550 ft.
Ed Shogren et al's No. 1 Frazier, SE Sec. 31-4n-69w. S.D. 910 ft.; to change over to C.T.

Logan County

West Plains Oil Co.'s No. 1 Sheldon, SE NW SW Sec. 3-10-55w. T.D. 1,512 ft.; C.O. cavings.

Moffat County

Mountain Fuel Supply Co.'s No. 6 Wilson, C Lot 2 (C NW SE) Sec. 14-12n-100w. Loc.
Mountain Fuel Supply Co.'s No. 2-A Kuykendall, SW NW SW Section 23-12n-100w. M.I.M.
Mountain Fuel Supply Co.'s No. 5 Wilson, SW SW NW Sec. 23-12n-100w. T.D. 2,592 ft.; perf. and tstg. 2nd sd. at 2,274-2,315 ft.

Montezuma County

McElmo Oil Co.'s No. 1 West, NE NW NE Sec. 31-36n-17w. S.D. 5,285 ft.

Ouray County

Ridgway Pet. Synd.'s No. 1 Bennett, C NE SE Sec. 2-45n-8w. Drlg. below 400 ft.

Park County

South Park Oil Co.'s No. 1 Leman, NE NE SE Sec. 34-11s-75w. Drlg. sdy. sh. 7,291 ft.

Rio Blanco County

Buford Oil Co.'s No. 1 Govt., C SW SW Sec. 16-1n-91w. T.D. 4,160 ft.; U.R. 6¼-in. from 3,640 ft.
W. L. W. Royalty Corp.'s No. 1 Rector, SE Sec. 34-2n-102w. Drlg. 740 ft.
Texas Co.-California Co.'s No. 3 Unit, NE NE NE Sec. 27-3n-94w. Drlg. 5,819 ft.

Routt County

L. C. Craig-E. L. Moore's No. 1-X Erwin, C SW NE Sec. 33-7n-85w. T.D. 2,253 ft.; W.O. csg.

Washington County

Thurman Oil Tr.'s No. 1 Ruby, NW NW SW Sec. 3-5s-52w. S.D. 1,800 ft. in sd.; W.O. heavier rig.

WYOMING

Albany County

Ohio Oil Co.'s No. 1 Coughlin, SW NE NW Sec. 26-16n-77w. S.D.O. 4,335 ft.; Sundance sd. dry at 4,315-30 ft.

Big Horn County

Ohio Oil Co.'s No. 3 Davis, NW SW NW Sec. 34-56n-97w. R.U.R.
McDonald & Curtis' No. 1 Orchard, SE NW Sec. 24-51n-93w. Spd. and S.D. to comp. R.U.
Frank S. Scott's No. 1 Robertson, SE SE SE Sec. 6-54n-93w. S.D. 650 ft.; indef.

Carbon County

The MacKinnie Oil & Drilling Co.'s No. 2 Union Pacific, NE SE NE Section 21-22n-78w, which started as a Sundance sand test, was abandoned at 1,118 ft. when it was found to be drilling in a fault. It has not yet been decided whether another test will be drilled. It was an offset to Martin & Gaylord's No. 1 Horne Brothers, which was completed in the Muddy sand at 750-805 ft. last December for 7,000,000 cu. ft. of gas with a pressure of 325 lb. This was the third well drilled on the Horne Valley structure, C. D. Cunningham's well ½ mile to the west, having been a failure.

Sinclair-Wyoming Oil Co.'s No. 14 Unit, NW SW NE Sec. 7-26n-89w. T.D. 3,966 ft.; rmg. to set csg.
Albert Dev. Synd.'s No. 1 Boeke, SW NW Sec. 18-25n-79w. Drlg. 969 ft.
Ohio Oil Co.'s No. 12 State, CWL NE Sec. 34-20n-78w. Loc.
Tri-State O. & R. Co.'s No. 17, NW SE NW Sec. 20-21n-80w. Drlg. 610 ft.

Converse County

Shawnee Expl. Co.'s No. 1 Salisbury, SE SW NE Sec. 27-32n-6w. Rdy. to spd.

Crook County

Union Oil Co. of Calif.'s No. 1 Casey, SE NE NW Sec. 3-57n-62w. Cmtd. 12½-in. at 296 ft.; W.O.C.
Vickers Pet. Co.-Continental Oil Co.'s No. 1 Duncan-Lobban, NE NW SW Sec. 28-57n-64w. M.I.M.

Fremont County

Logue Trust Co.'s No. 1 Wisner, Government Draw dist., NE SW Sec. 8-33n-98w. Spdg. 10 ft. in Cody sh.
Sinclair-Wyoming Oil Co.'s No. 12 Unit, SW SE NW Sec. 23-32n-95w. Drlg. 2,650 ft.

Tropic Oil Co.'s No. 1 Govt., C SE SW Sec. 34-27n-90w. T.D. 3,495 ft.; cmtd. off tools after sdtrkg.

Hot Springs County

Boybell Oil Co.'s No. 2 Kyne, NW SE SW Sec. 22-43n-92w. Drlg. 623 ft. in Front.; 6⅝-in. csg. at 523 ft.

Lincoln County

H. C. Harris et al's No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. L. 2,939 ft.
Fontenelle Dev. Co.'s No. 1 Pomroy, NE SW Sec. 5-24n-113w. Drlg. below 1,000 ft.

Natrona County

General Pet. Corp.'s No. 31-21-G, NW NE NW Sec. 21-35n-77w. B.R.
Lewis Gebhart's No. 1 Govt., NW NE SE Sec. 10-39n-78w. Drlg. 750 ft.
Continental Oil Co.'s No. 1 McGrath, C NW SW Sec. 15-34n-78w. Drlg. 8,294 ft.
Royal Oil Corp.'s No. 1, SW SW SW Sec. 26-35n-80w. Drlg. 205 ft.
Connelly Drlg. Co.'s No. 1 State, SW SW NW Sec. 36-36n-81w. S.D. 1,420 ft.

Niobrara County

Lance Creek had one new operation, the Ohio Oil Co.'s No. 15 Elizabeth Lamb, an inside well. There were no completions. The Ohio's No. 16 Carrie Putnam, a near completion, flowed 35 bbl. of fluid per hour, 14 per cent water, after plugging back from 5,529 ft. to 5,425 ft., and is still trying to shut off the water.

Ohio Oil Co.'s No. 15 Lamb-Acct. 1, NW SE SE Sec. 32-36n-65w. Rng. drk. found.; (first report).
Argo Oil Co.'s No. 7 Ford, SE NW SE Sec. 33-36n-65w. Loc.
Minnelusa Oil Corp. and MacKinnie Oil & Drlg. Co.'s No. 11 Thompson, NW SE NW Sec. 7-35n-65w. Drlg. r.b. 4,395 ft.
Ohio Oil Co.'s No. 7 Agnes Rohlff, NW NE SE Sec. 32-36n-65w. Rig; W.O. equip.
A. B. Cobb's No. 1 Novick, SE NE NW Sec. 6-35n-65w. Drlg. 2,873 ft.
Continental Oil Co.'s No. 7-A Dielman, NW NE NW Sec. 8-35n-65w. Rig; W.O. equip.
Continental Oil Co.'s No. 19 Tom Bell, NW NE SE Sec. 33-36n-65w. R.U.R.
Argo Oil Co.'s No. 13-A Elliott, SE NE NW Sec. 5-35n-65w. Drlg. 3,240 ft.
Ohio Oil Co.'s No. 16 Lamb-1, NW NE NE Sec. 5-35n-65w. R.U.R.
Continental Oil Co.'s No. 7 Sam Joss, NW SW NE Sec. 6-35n-65w. Drlg. 3,905 ft.
Continental Oil Co.'s No. 11 Otto Rohlff, SE NE SE Sec. 31-36n-65w. Drlg. 3,592 ft.
Ohio Oil Co.'s No. 14 E. Lamb-Acct. 2, C SW SE Sec. 5-35n-65w. T.D. 5,445 ft.; cmtd. 7-in. at 5,443 ft.; prep. to perf. and test.
Continental Oil Co.'s No. 3 E. Rohlff, SE SW NW Sec. 32-36n-65w. Drlg. 4,845 ft.
Ohio Oil Co.'s No. 16 Putnam, SW SW NW Sec. 4-35n-65w. T.D. 5,529 ft.; P.B. to 5,435 ft. to S.O.W. in 2nd Leo sd. at 5,505-79 ft.; tstg.
Ohio Oil Co.'s No. 15 Carrie Putnam, NW NE SW Sec. 33-36n-65w. T.D. 5,541 ft.; P.B. to 5,481 ft.; tstg.
H. D. Moore's No. 1 Berggren, SE NW Sec. 23-35n-63w. T.D. 2,526 ft.; rng. 4¾-in. for W.S.O.

Park County

V. M. Kirk's No. 3 Govt., SW SW NW Sec. 24-58n-98w. R.U.R.
Yale Pet. Corp.'s No. 2 Owens, NE SW SW Sec. 29-52n-100w. Drlg. 1,860 ft.
Yale Pet. Corp.'s No. 1-B Frisby, SW NE NE Sec. 31-52n-100w. C.&P.
Minnelusa Oil Corp.'s No. 1 Roney, SW SW NW Sec. 24-58n-98w. Drlg. 3,450 ft.

Sublette County

Texas Co.'s No. 1-G Govt., NW NW SW Sec. 27-27n-113w. T.D. 133 ft.; str. crkd. hole.
Marvel Oil Co.'s' No. 2-G Govt., CNL NE SE Sec. 28-27n-113w. Drlg. 150 ft.
Worth Garretson et al's No. 1, NE NW SE Sec. 28-27n-113w. Drlg. 780 ft.
North La Barge Oil Co.'s No. 1 Govt., NE SE NE Sec. 28-27n-113w. T.D. 992 ft.; R.U.C.T. to D.D.
Yellowstone Oil Co.'s No. 1 Henry Budd, SW SE SE Sec. 6-30n-112w. T.D. 1,070 ft.; U.R. 10-in. to 986 ft. for W.S.O.
North La Barge Oil Co.'s No. 3 Govt., SE SE NE Sec. 28-27n-113w. T.D. 1,070 ft.; rmg. to set csg.

Sweetwater County

The Mountain Fuel Supply Co.'s No. 1 Murphy, SE cor. Section 27-17n-104w, South Baxter basin, is drilling deeper at 3,575 ft. to go to the Sundance sand. It was completed in the Dakota at 3,425 ft. in the fall of 1929 for 33,000,000 cu. ft. of gas per day.

Mountain Fuel Supply Co.'s No. 1 Murphy, SE SE SE Sec. 27-17n-104w. Drlg. 3,575 ft.
Gus Ponglatz et al's No. 1 Clark, C NW NE Sec. 22-19n-104w. Cmtd. 12½-in. at 187 ft.; W.O.C.
Sinclair-Wyoming Oil Co.'s No. 93-A, SW NW NW Sec. 11-26n-90w. T.D. 2,020 ft.; tstg.
Red Desert Corp.'s No. 1 Aspden, NW SW NW Sec. 34-18n-103w. Rig; W.O. equip.
Vermillion Oil Co.'s No. 2 Govt., SW SW SW Sec. 7-12n-99w. T.D. 2,724 ft.; tstg. S.O.&G.

Uinta County

Elvnor Oil Co.'s No. 1, Cumberland dist., CEL SE SE Sec. 6-18n-116w. Cmtd. 12½-in. at 113 ft.

MONTANA

Choteau County

Security Pet. Corp.'s No. 1 Johnson, C NE NE Sec. 23-26n-3e. Drlg. 2,132 ft.

Glacier County

Cut Bank had two completions. The best was the Texas Co.'s No. 5 E. Curran, C NW SE Section 8-32n-5w, in the southern end of the field, which swabbed 200 bbl. the first 16 hours at 3,021 ft., total depth, from the Cut Bank sand at 2,965-3,019 ft. The main pay was at 3,000-19 ft.

The other completion was the Texas Co.'s No. 5 State, C NE NE Section 16-32n-5w, which swabbed 15 bbl. the first 24 hours at 3,008 ft., total depth, from the upper Cut Bank at 2,965-86 ft. There was a thin streak of pay at 2,971-75 ft. and oil rose 400 ft. There was no lower Cut Bank sand. It was then shot with a total of 10 qt. and is testing.

Glacier Prod. Co.'s No. 1 Yunck unit, 125 ft. S of CNL Sec. 2-34n-5w. Drlg. 140 ft.
R. C. Tarrant's No. 1 Butler, CEL NW SE Sec. 15-34n-6w. Drlg. 100 ft.
A. B. Cobb's No. 6 Walberger, SE SW SE Sec. 33-35n-6w. Drlg. 1,900 ft.
Santa Rita O. & G. Co.'s No. 5 Whetstone, C Lot 2, Sec. 27-35n-6w. Drlg. 1,900 ft.; Colo. 530 ft.; 10¾-in. at 540 ft.
R. C. Tarrant's No. 3 Hope, C NE Sec. 18-34n-5w. R.U.
Annand-Hutchings' No. 5 Federal Ld. Bnk., CSL NE SW Sec. 11-34n-6w. Drlg. 1,980 ft.
Texas Co.'s No. 8 Unit 9, C NW NE Sec. 9-32n-5w. Drlg. 775 ft.
Glacier Prod. Co.'s No. 4 Corrigeux, C SE SW Sec. 28-33n-5w. Rng. 7-in. at 3,025 ft.
Consolidated Gas Co.'s No. 3 State, SE NW SE Sec. 26-35n-6w. Drlg. 1,700 ft.
Santa Rita O. & G. Co.'s No. 3 Rasmussen, C NW SE Sec. 32-33n-5w. Drlg. 2,750 ft.
Texas Co.'s No. 2 Unit 11, SE NW Sec. 11-35n-6w. T.D. 3,000 ft.; prep. to test.
Glacier Prod. Co.'s No. 5 Bonnett, C NW SE Sec. 4-32n-5w. Drlg. 1,025 ft.; Colo. 627 ft.; 10¾-in. at 640 ft.
Castle-Pardee's No. 2 Tarrant-Corriguex, SE NE NE Sec. 2-33n-6w. Drlg. 2,860 ft.
Texas Co.'s No. 4 Tweedy, C SE NW Sec. 21-35n-6w. Cmtd. 5½-in. csg. at 2,920 ft.; 500 ft. O.I.H. from sd. at 2,923-26 ft.; prep. to test.
Cobb-Reagan's No. 4 Jackson, SW SW SE Sec. 5-32n-6w. R.U.R.

Pondera County

Ted Hawley's No. 3 State, NW SE SE Sec. 16-27n-4w. Drlg. 1,700 ft.

Toole County

Kevin-Sunburst had three completions. A. M. Crumley & Son's No. 19 Fryberger, NE NW SE Section 24-35n-3w, pumped 10 bbl. of oil and 2 bbl. of water per day at 1,380 ft., total depth, from the Sunburst after plugging back from the contact at 1,606 ft.

The G. & A. Oil Co.'s No. 15 Goeddertz, CEL NE SW Section 23-35n-3w, pumped 20 bbl. per day from the contact at 1,673-91 ft. after acidizing with 500 gal.

The Rimrock Oil Co.'s No. 6 Schmidt, NW SE NW

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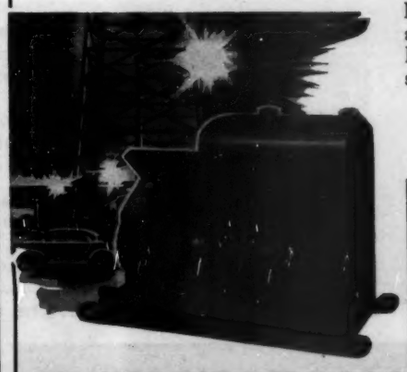

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Section 29-35n-3w, pumped 25 bbl. per day, 95 per cent water, from the contact at 1,790-98 ft., after acidizing with 500 gal.

Coolidge & Coolidge's No. 7-A State, NW SW NW Sec. 36-36n-2w. T.D. 1,492 ft.; rng. 7-in.

Adams-Hesla Oil Co.'s No. 2 McAdams, C SE SE Sec. 21-35n-2w. Drlg. 800 ft.

Big West Oil Co.'s No. 3 Ellingson, SW SE SW Sec. 14-35n-3w. Drlg. 1,570 ft.; 250,000 cu. ft. of gas in Sunburst at 1,460-92 ft.

J. H. Agen's No. 2 Goeddertz, NE NW NW Sec. 23-35n-3w. Drlg. 910 ft.

Imperial-Craig Co.'s No. 2 Gause, C SE NW Sec. 18-35n-1w. Drlg. 1,536 ft.; contact 1,527-32 ft.

Texas Co.'s No. 12 Bruins, SE SW SE Sec. 9-35n-2w. Drlg. 205 ft.

Twin Fields Oil Co.'s No. 1-A Govt., NW cor. Sec. 28-35n-3w. Drlg. 1,346 ft.

H. O. and C. D. Stock's No. 1-A Govt., SE NW SE Sec. 17-35n-2w. Drlg. 855 ft.

Wm. Hanlon et al's No. 1 Merton Mortgage, C SW SE Sec. 6-37n-1w. Drlg. 1,060 ft.

Coolidge & Coolidge's No. 6-A State, SW NW NW Sec. 36-36n-2w. T.D. 1,460 ft. in T. stray sd.; 2,000,000 cu. ft. gas at 1,460 ft.; rng. 8⅝-in.

O. A. Nepstand's No. 1 Hugi, NW SE NW Sec. 11-35n-3w. Drlg. 1,350 ft.

L. J. Yealy's No. 14 Shaw, NW SW NE Sec. 35-36n-2w. Drlg. 560 ft.

S. V. Day's No. 1 Halter, C NE SE Sec. 17-35n-2w. Drlg. 1,115 ft.

Prevol & Shay's No. 6 Govt., NE NW SW Sec. 11-35n-3w. R.O.G.

R. G. Parrant's No. 1 Holbrook, C NW NE Sec. 2-36n-3w. S.D. 1,475 ft.

Casper T. Olen's No. 9 Engemoen, NW NE NW Sec. 14-35n-2w. T.D. 1,595 ft.; contact 1,572 ft.; P.B. to 1,584 ft.; acd. 1,000 gal.

Yellowstone County

Calitana Oil Co.'s No. 1 Stallinberger, NE NE SW Sec. 18-3n-23e. T.D. 5,129 ft.; cmtd. 7-in. at 4,997 ft.; trying sqz. job.

Riverton Oil Co.'s No. 1 Fox, CEL NW NE Sec. 14-2n-23e. T.D. 2,150 ft.; C.O. at 1,920 ft. to res.

UTAH

Daggett County

Mountain Fuel Supply Co.'s No. 1 Govt., SE NE NE Sec. 19-3n-24e. Cg. 5,405 ft.

SOUTH DAKOTA

Butte County

Two Top O. & G. Co.'s No. 2, SE NE Sec. 30-10n-6e. T.D. 2,725 ft.; rng. Schimb. test; Muddy at 2,550-75 ft.; had S.O.&G.

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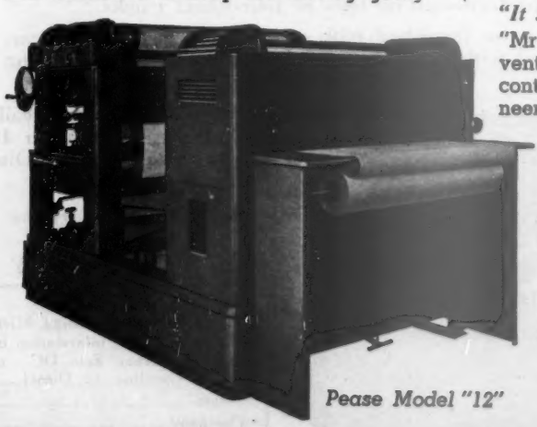

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Indiana Field

(Continued from Page 96)

Spencer, C E½ SE SE Section 26-7s-15w, total depth 2,882 ft., where 5-in. casing was set; dropped tubing on plug set at 2,800 ft.; recemented. Ben Davis' No. 1 Simms, SW cor. SE Section 22-6s-7w, drilling below 75 ft. Mogan, Keiger and others were reported to have abandoned No. 1 Simms, SE SW SE Section 22-6s-7w, after spudding.

Gibson County

In Gibson County Anderson and others' No. 1 Boegline, C E½ SE NW Section 10-4s-10w, spudded. Continental Oil Co. had rig up for No. 8 Bozeman, SW NE NW Section 26-3s-14w. J. C. Meyers and others spudded No. 1 Fifer, on a ¾-acre tract, 40 ft. from the south and 20 ft. from the west lines, SE SE Section 13-3s-14w. Papoose Oil Co.'s No. 5 Cooper A, SW NW SW Section 13-3s-14w, was shot with 20 qt. at 2,482-2,509 ft., pumped 200 bbl. in 24 hours. J. N. Roberts' No. 1 Keck, SW SE NW Section 34-3s-14w, pay at 2,793-2,801 ft., pumped 75 bbl. without a shot. Ray Ryan and others' No. 2 Keck, NW cor. Section 34-3s-14w, drilling at 1,612 ft. Harry Sandler and others' No. 1 Keck, NE cor. SW NW Section 34-3s-14w, total depth 2,794 ft., set 5-in. casing at 2,775 ft., drilling plug. Somers & Egan's No. 4 Keck, SW cor. NW NW NE Section 34-3s-14w, shut down at 2,809 ft. for orders. Continental Oil Co.'s No. 1 Ford, NE NE NW Section 35-3s-14w, acidized with 1,000 and 2,000 gal., at 2,932-42 ft., pumped 43 bbl. in 24 hours; not completed. Lewis Production Co.'s No. 8 Cooper D, NE SE NW Section 13-3s-14w, shot with 15 qt. at 2,490-97 ft. Oil rose 1,000 ft. in the hole; cleaning out. Hall Edwards' No. 1 Maier, SE SE SE Section 14-3s-14w, rigging up rotary; No. 2, NE SE SE Section 14, a location; No. 3, SE NE SE Section 14, rig up; No. 4, NE NE SE Section 14, a location. Continental Oil Co.'s No. 2 Kleiderer, SW SE SW Section 26-3s-14w, shot with 35 qt. at 2,503-17 ft.; oil rose in the hole 600 ft.; cleaning out.

S. M. Kernan's No. 1 Brown, C E½ NW SE Section 12-3s-9w, shut down at 1,500 ft. with a hole full of water, pulled 5-in. casing. L. B. Jackson's No. 1 Bauer, SW SE SE Section 10-2s-9w, pay at 1,624-32 ft., oil rose in the hole 1,400 ft. in 10 hours; testing. L. B. Jackson's No. 1 Barthold, NW NW SW Section 23-2s-9w, drilling at 1,210 ft. A. L. Braden and others' No. 1 Knight, Cypress sand at 1,900 ft.; shot with 20 qt. at 1,900-66 ft., cleaning out; only a small show of oil thus far. W. C. McBride, Inc.'s No. 1 Blair, SE SE NW Section 13-2s-12w, drilling at 1,775 ft.

Pappoose Oil Co.'s No. 3 Cooper C, SE NW SW Section 18-3s-13w, shot with 50 qt. at 2,786-2,803 ft., and acidized with 500 gal., pumped 22 bbl. in 24 hours.

In Marion County White River Oil & Gas Co.'s No. 3 Indianapolis Water Co., NE cor. SW Section 15-16n-3e, spudded. J. W. Adams' No. 1 Kleiman, SE cor. SW SE NE Section 22-16n-5e, a location.

In Fountain County Fountain Oil Co.'s No. 1 Glasscock, SE SE SW Section 2-18n-8w, drilling at 160 ft.

In Randolph County J. M. Seip's No. 1 Johnson, SW cor. NE NW Section 9-19n-13e, sand at 1,044-71 ft., acidized with 1,000 gal., pumped 1½ bbl. of oil per day. It had not been completed. Godwin and others' No. 1 St. John, C NE NE Section 8-21n-12e, shot with 60 qt. at 1,259-69 ft., pumped 50 bbl. of water per day; not completed.

In Boone County N. M. Smith's No. 1 Marshall, NW NW NE Section 34-19n-2e, Devonian top at 215 ft., drilling at 450 ft.

In Jay County Ellen Burke abandoned No. 1 McFarland, SW NE SW Section 24-22n-14e, in Trenton lime at 1,143 ft. The hole filled with salt water. Donald Davis' No. 1 Perry, SE NW NW Section 17-24n-12e, was shut down at 985 ft. Petroleum Development Corp.'s No. 1 Binegar, NE cor. NW Section 29-24n-13e, drilling at 2,449 ft. in a hole full of water. Eight-inch casing was set at 2,214 ft. Stoltz & Say made a location for No. 1 Palmer 375 ft. from east and 2,640 ft. from north lines of NW Section 36-24n-14e.

In Huntington County Ray Ash made a location for No. 1 Shaw, SE cor. Section 12-26n-9e. M. J. Anderson's No. 1 Hays, NW NW SW Section 6-26n-10e, shut down at 581 ft.

In Jasper County Clapsaddle & Harris' No. 1 Allen, NE SE NE Section 34-32n-5w, Trenton lime top at 940 ft., water at 970 ft., drilling at 1,100 ft.

In Newton County Vaughn and others' No. 1 Gacup, SW SE SE Section 33-32n-8w, lime at 677-740 ft., shale at 740 ft., drilling at 890 ft., still in shale.

In Warrick County Wintner and others' No. 1 Brockman, SW NW NW Section 13-5s-9w, was reported aban-

doned at 300 ft. No reason was given. L. B. Jackson's No. 1 Schumacher, NE NW NW Section 34-3s-8w, small showing of oil at 1,716-17 ft., total depth 1,770 ft., running 5-in. casing.

In Bartholomew County Haw Creek Petroleum Co.'s No. 1 Fishul, SE NE NE Section 15-10n-7e, location.

In Vanderburg County Vanderburgh Oil Corp.'s No. 11 Hornby, SE NW SW Section 33-5s-10w, Renault at 2,190 ft., hole full of water at 2,060-2,101 ft., underreaming 6-in. casing from 2,018 ft. J. L. Drake was rigging up machine for No. 10 Effinger, SW SW NW Section 33-5s-10w.

In Pike County George W. Miller, resumed drilling on his deep test, No. 1 Nixon, SE SW NE Section 14-3s-8w. Exact depth is not known but is below 4,000 ft. W. H. Neub and others' No. 1 Stone, SW NW NW Section 21-1n-7w, drilling at 625 ft. in a hole full of water.

In Greene County Commonwealth's No. 1 Tucker, NW cor. NE SE NE Section 16-6n-6w, drilling at 1,040 ft. Shicker & Lyon's No. 1 Kiser, NW NW NW Section 4-7n-5w, Trenton lime at 2,525 ft., drilling at 2,610 ft., with no showings.

In Sullivan County T. B. Scott and others made a location for No. 1 Mattox, SW NE NE Section 29-8n-9w. Clarence Harden made a location for No. 1 Evans, NE cor. SE SW Section 28-8n-10w.

In Putnam County C. L. Williams' No. 1 Cooper, SW SW SE Section 10-13n-4w, drilling at 1,490 ft. in a hole full of water.

OHIO FIELDS

NEWARK, Ohio, June 10.—Ohio fields covered in this report completed 14 wells of which 4 were gas wells, 6 oil wells and 4 dry holes. The Newark field yielded a 470,000-cu. ft. gasser in the Little Cinnamon shale. Medina County has four oil completions, the best one having had a 40-bbl. initial production.

In Athens County, Lodi Township, C. P. Bowman's No. 6 James Rogaski, Section 17, was deepened from the second Cow Run to the second Berea sand for 80,000 cu. ft. of gas, open flow, depth 1,708 ft.

In Guernsey County, Valley Township, Jewell Gas Co.'s No. 1 Reed Wilson, Section 11, was abandoned after a shot in the Berea, depth 1,324 ft. It had only a small gas showing.

Newark field, Licking County, Newark Township, Allen Willey, and others' No. 1 B. Durham Plyler, north part of the first quarter, gaged 470,000 cu. ft. of gas, open flow, from the Little Cinnamon shale at 660 to 708 ft.

In Lorain County, Carlisle Township, C. A. McMillen's No. 1 C. M. Smith, Section 18, has an open flow of 250,000 cu. ft. of gas, from Clinton sand at 2,295-2,300 ft. In Penfield Township Wiser Oil Co.'s No. 3 T. C. Denham, Lot 43, found Berea sand dry, depth 251 ft.

In Medina County, Chatham Township, Shanner & Kyser's No. 1 H. J. Mathews, Lot 52, Tract 15, made 30 bbl. of oil first day after a shot in Berea sand at 435-82 ft.; Edson & Son's No. 13 Samuel Brant, Lot 2, Tract 16, 40 bbl. a day from Berea at 432-90 ft.; Edson & Son's No. 6 J. H. Auble, Lot 13, Tract 16, 10 bbl. a day from Berea at 316-53 ft.; Edson & Son's No. 7 J. H. Auble, Lot 4, Tract 16, dry, depth 396 ft.; Defusto & Sawinger's No. 2 G. L. Allis, Lot 3, Tract 8, 4 bbl. a day from Berea at 354-413 ft.

In Noble County, Jackson Township, Skinner Co.'s No. 1 T. C. Hughes, Section 9, was dry in the Berea at 1,583 ft. It was plugged back to 835 ft. and completed as a 1-bbl. pumper in the M-700-ft. zone. Wilbur Keith's No. 1 P. J. Doebereinger, Section 11, makes 1 bbl. oil from the Keener, depth 1,230 ft.

In Perry County, Jackson Township, Hoover Oil Co.'s No. 1 Robert Adcock, Section 27, 200,000 cu. ft. of gas, open flow, in the Berea at 944 ft.

In Stark County, Plain Township, East Ohio Gas Co.'s No. 1 Wilbur Shoemaker, Section 4, had 300,000 cu. ft. of gas in the Clinton. Tools stuck fast in the hole, and could not be recovered. The hole was abandoned at 4,570 ft.

EASTERN KENTUCKY

ASHLAND, Ky., June 7.—One dry hole and one oil well are included in the completion report from eastern Kentucky.

Fitch & McGowan completed the third well on the A. C. Bradley farm in Morgan County, it was a dry hole at a depth of about 750 ft., through Maxon sand, and will move southwest to No. 4 location. The first two wells on this farm had a combined gas production of about 1,000,000 cu. ft. daily.

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Michigan Field Report

By
OTTO C. PRESSPRICH

Deepest Well in Michigan Is Idle With Small Gas Showing

SAGINAW, Mich., June 10.—Michigan's deepest drilling well was shut down last week at 5,117 ft. after finding a slight gas showing in the Sylvania and is awaiting decision as to future activity. The test, C. L. Maguire's No. 1 Charles Clark, in Section 32 of Warren Township, Midland County, was reported nearly four-fifths filled with water. The gas showing came at 5,115 ft. Originally planned for the Dundee limestone, the Clark test showed no results at 3,725 ft., and went through the Monroe just short of 4,000.

With that project at the standstill, operators were awaiting the outcome of an acid treatment in Sun Oil Co.'s No. 1 Cameron, in Section 10, Grout Township, Gladwin County, about 5 miles west of the Buckeye pool. It was reported good for 6 bbl., naturally a day 3,814 ft., in the Dundee. Sun Oil Co. is making extensive wildcat tests in the Central Michigan basin and has at least five other operations at various stages, one in Franklin Township of Clare County being down more than 4,850 ft.

Last week's activities throughout the state resulted in completion of 12 new oil wells with combined initial production of about 1,750 bbl. a day.

Showing in Huron

Huron County appeared to have been definitely added to the oil-producing counties of the state when a wildcat test filled 600 ft. with oil in 24 hours up to noon today. The well is in SE SE SW Section 8 of Bloomfield Township about 40 miles northeast of the closest production in Tuscola County. It is on a 5,000-acre tract belonging to Charles W. Teater of Saginaw and Wallace Markle of Bad Axe, the county seat of Huron County. Owners today estimated the well good for 250 bbl.

The well was drilled to 2,652 ft. after striking the pay at 2,641 ft. The test topped the Monroe at 2,483 ft. It is the first well in Huron County. The owners have drilled five tests in the same area and a total of 15 unsuccessful tests have been reported for Huron County in recent years.

Cities Service Oil Co. completed another Wise Township well in Isabella County from the principal Central Michigan development. It was rated at 380 bbl. a day. The best new well was the 390-bbl. completion of Marshall Bauman, No. 2 DenBoer, in Tallmadge. A small producer was reported from Monroe County's Dundee Township. The gas well, Belvidere Oil Co.'s No. 1 Methodist Church, in Home Township, of Montcalm County, was good for 581,000 cu. ft. a day.

The decline in Michigan oil production was reflected in state Tax Commission severance-tax reports for April when collections totaled $39,726, compared to $42,349 in March. April production totaled 1,829,211 bbl. of oil, valued at $1,839,941, compared with 1,921,101 bbl. worth $1,926,281 in March. Natural-gas output in March was 1,509,695,728 cu. ft. valued at $191,206, compared with 1,203,538,627 cu. ft. worth $146,370 in April.

During the week 24 more oil and gas-drilling permits were issued by the state Conservation Department. Four are for gas tests, three in Clare, one in Montcalm County. Most of the tests are for southwestern Michigan fields, Allegan leading with nine, of which seven are to be drilled in Heath Township.

Following is the completions report for last week:

Allegan County

Heath Township (3n-14w)—After acid treatment, initial production was at the rate of 250 bbl. a day from Fletcher & Leman's No. 1 Hulsman, NW SW SW Section 3, completed at a depth of 1,497 ft. Howard E. Fowler's No. 1 Klingenberger, NE SW NE Section 4, completed at 1,541 ft., produced 40 bbl. a day, after it was acidized. Clapsaddle & Harris abandoned No. 1 J. Shievink, NE NE NW Section 9, with the test showing no oil at 1,637 ft.

Lee Township (1n-15w)—Will C. Mee's No. 1 Capper estate, NW NW NE Section 34, was abandoned as dry at 1,233 ft.

Monterey Township (3n-13w)—Three Monterey Township tests were dry and abandoned. They were Sprenger Brothers and others' No. 1 Paul Brenner, SW SE NE Section 10, plugged at a depth of 1,756 ft.; Regis P. Cook's No. 1 Reinart, NW SW NE Section 6, drilled to 1,734 ft., and Clapsaddle & Harris' No. 1 Ward Granger, NW NE SE Seciton 22, at 1,825 ft.

Overisel Township (4n-14w)—The sixth failure of the week in Allegan County was D. E. Foster's No. 1 J. H. Klok, NW SW NW Section 15, abandoned at 1,516 ft.

Clare County

Hamilton Township (19n-3w)—Sun Oil Co.'s No. 1 McKenna-Manwaring and others, C SW Section 23, a gas test, was abandoned at 1,327 ft.

Isabella County

Wise Township (16n-3w)—J. V. Wicklund Development Co. abandoned location for No. 2 Calvin Arnold, NW NW SW Section 8, as Cities Service Oil Co.'s No. 2 Parsell, SE NW NE Section 17, was being completed at a depth of 3,753 ft. for oil production of 381 bbl. a day, after acid treatment.

Kent County

Walker Township (6n-12w)—James J. McGerry, Inc.'s No. 2 Liskiewicz, SE NE NE Section 6, rated 10 bbl. a day, after acid treatment, at 1,901 ft.

Walker Township (7n-12w)—R. E. King's No. 1 Nellie Walsh, SE NE NE Section 31, was good initially for 250 bbl. a day, after an acid treatment, at 1,892 ft., and Welsh Oil Co.'s No. 3 Whalen, NW NE SW Section 32, completed at 1,893 ft., rated 50 bbl. a day, after it was acidized.

Wyoming Township (6n-12w)—Rex Oil & Gas Co.'s No. 4 Central Land Co. and others, SW NE NE Section 3, completed at a depth of 1,791 ft., and acid treated, produced 60 bbl. a day, initially, but production, after an acid treatment, was only 10 bbl. a day from Welsh Oil Co.'s No. 1 Travista Park, SE NW SE Section 3, which had total depth of 1,808 ft.

Midland County

Porter Township (13n-1w)—C. M. Carothers' No. 1 Everette Kleinhans, SW SW NE Section 2, was abandoned as dry at 3,570 ft.

Monroe County

Dundee Township (6s-6e)—Skinner & Shiffman's No. 1 E. Bragg, SW SW SW Section 29, drilled to 2,142 ft., and shot with nitroglycerin, was good initially for 34 bbl. a day.

Montcalm County

Home Township (12n-6w)—Belvidere Oil Co.'s No. 1 Methodist Church, SE SW SE Section 12, was completed at 1,309 ft. as a gas well, producing 581,000 cu. ft. daily.

Ottawa County

Holland Township (5n-15w)—Regal Dutch Petroleum Co.'s No. 1 Marinus Wabeka, NE NW NW Section 12, was abandoned as dry at 1,679 ft.

Port Sheldon Township (6n-16w)—Hugh H. Heinig's No. 1 William Van Draght, a wildcat, SE SE SW Section 22, likewise was abandoned at 1,570 ft.

Tallmadge Township (7n-13w)—Three producers were completed in Section 23, as Marshall H. Bauman's No. 2 Cornelius DenBoer, C N½ SE NW, was good for 390 bbl. a day, after an acid treatment. Smith Petroleum Co.'s No. 3 Herbert T. White, SE SW NE rated 40 bbl., after it was acidized, and Turner Petroleum Co.'s No. 2 F. T. White, SE NE NW, did 191 bbl. a day, initially. Respective depths are 1,875 ft., 1,870 ft., and 1,884 ft.

Van Buren County

Bangor Township (2s-16w)—J. S. Slagel Drilling Co.'s No. 1 Linnie McConnohie, SE SE NW Section 21, was abandoned at 1,027 ft.

Bloomingdale Township (13n-14w)—R. T. & E. Corp. and H. R. Allen's No. 5 C. J. Clinkenbeard, NE SW NW Section 17, was abandoned at 1,269 ft., and Clapsaddle & Harris' No. 1 Joe Kopterski, SW SW SW Section 20, was a failure at 1,283 ft.

Columbia Township (1s-15w)—Westbrook Drilling & Producing Co.'s No. 1 J. Mulhall, SW SE SW Section 4, was temporarily abandoned at 1,183 ft.

La.-Ark. Fields

(Continued from Page 92)

20 bbl. of salt water, total depth 1,556 ft. Texas Co.'s No. 1 Cullinan fee, Section 32-21-15, pumping 40 bbl. of oil and 25 bbl. of salt water, total depth 1,566 ft. Texas Co.'s No. 11 A. Herndon, Section 14-21-15, flowing 79 bbl. of oil and 20 bbl. of salt water, total depth 1,656 ft. Thomas & Mack's No. 1 Burton, Section 1-20-16, flowing 200 bbl., total depth 1,503 ft. Ivan W. Wright's No. 1 Moore, Section 1-20-16, dry and abandoned, total depth 1,560 ft.

Shreveport—Caddo Parish

C. H. Lyons' No. 1 Ferris, 750 ft. north and 30 ft. east of SW cor. Section 35-18-14, flowed 17 bbl. per hour, 22/64-in. choke, tubing pressure 100 lb., casing pressure 400 lb., porous lime topped at 5,560 ft., perforated casing at 5,562-70 ft., total depth 5,585 ft.

Wildcat De Soto Parish

Dewey Juan's No. 1 Frost Lumber Industry, SE SW Section 14-10n-15w, dry and abandoned, total depth 3,255 ft.

Olla—La Salle Parish

Arkansas Fuel Oil Co.'s No. 1-B Goodpine Oil Co., C NW SW Section 18-10n-3e, 192 bbl., 1-in. choke, 5 per cent sediment and salt water, tubing pressure 20 lb., casing pressure 100 lb., total depth 2,335 ft. Placid Oil Co.'s No. 5 Goodpine, C SE NW Section 18-10n-3e, 240 bbl., 30 per cent salt water, using input gas, perforated 2,226-40 ft., total depth 2,400 ft. Placid Oil Co.'s No. 10 Louisiana Central, C NW SW Section 7-10-3, 700 bbl., 50 per cent salt water, perforated casing 2,224-28 ft., using input gas to flow, total depth 3,914 ft. Placid Oil Co.'s No. 16 Louisiana Central, C NW NW Section 36-10-2, estimated 15,000,000 cu. ft. of gas, rock pressure 925 lb., perforated 2,224-34 ft., total depth 2,419 ft.

Zwolle—Sabine Parish

Sam Sklar's No. 1 First National Bank, C SW NW SW Section 29-8-12, dry and abandoned at 2,660 ft.

Wildcat—Tensas Parish

H. L. Hunt's No. 1 Chicago Mill & Lumber Co., C NW NW Section 30-13-10, dry and abandoned, total depth 3,550 ft.

Monroe—Union Parish

Nemours Corp.'s No. 1 Hollis, Section 10-21-3, 1,500,-

000 cu. ft. of gas, rock pressure 870 lb., total depth 2,208 ft.

EAST TEXAS BORDER COMPLETIONS

Smithfield—Marion County

J. D. Reynolds' No. 5-B Terry estate, 200 ft. north of N. L. Livingston tract, 350 ft. from east line W. Coore Survey, pumping 33 bbl., set 5½-in. casing 2,316 ft., total depth 2,350 ft. Sentinel Oil Co.'s No. 1 Wash Taylor, B.B.B.&C.R.R. Survey, dry and abandoned at 2,500 ft.

Wildcat—Harrison County

Fohs Oil Co.'s No. 1 M. J. Hall, 466 ft. from northeast corner, 77.85-acre tract, O. H. P. Bodine Survey, dry and abandoned, total depth 4,700 ft.

East Texas Fields

(Continued from Page 83)

tial flow had dropped off to about 5,000,000 cu. ft. during the 2 weeks' testing period. The well is bottomed at 7,308 ft. and is awaiting an official gage. Roger Lacy's No. 1 Edwin Lacy is the second test for the field and is located in the southeast part of a 108-acre tract in the Marshall Mann Survey, about a mile northeast of the discovery well and about 2 miles north of the operator's first well. The operator's third test has not yet been announced.

Chapel Hill District

Sun Oil Co. announced that its No. 1 Everhart, long-testing north-edge well on the Chapel Hill structure in Smith County, will be drilled deeper to test the Travis Peak section. At the same time the company announced a new location for the area.

Sun company's No. 1 Everhart, Lively Survey, was last reported coring below 8,272 ft. A core from 8,260-72 ft. showed considerable gas and a bottom-hole pressure of 1,425 lb. A producer is yet believed possible by the company.

Sun Oil Co.'s No. 1 J. C. Jones, in the Lewis H. Dillard Survey, is a new location 1¼ miles southeast of Hunt Oil Co.'s No. 1 Bradley, a Glen Rose distillate producer, which opened the field. The new test is 1½ miles northeast of Sun's No. 1 Huddle, recently completed distillate well.

Henderson County

Commercial production was indicated in a test being drilled in the Rowe & Baker area of northwestern Henderson County. It is W. R. Manning's No. 1 Bell estate, Muckleroy Survey, slightly southwest of production in the field. With an elevation of 363 ft. the well is bottomed at a subsea level of 2,832 ft. This point is 3 ft. below the total depth of the discovery well in the Rowe & Baker field. The well is bottomed at a total depth of 3,195 ft. and has recovered several feet of sandy shale and sand between 3,177 ft. and 3,195 ft. Electrical survey was being run as the week closed.

EAST TEXAS FIELD COMPLETIONS

(One-hour gages)

Gregg County—Longview Area

Texas Co.'s No. 7 J. S. Boles, 3,541-81 ft., 60 bbl.

Upshur County—Longview Area

B. F. Phillips' No. 2 G. C. Cannon, 3,591-3,606 ft., 40 bbl.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Anderson County

Cayuga field: Carter-Gragg Oil Co.'s No. 2 C. W. McMahon, 4,007-12 ft., 203 bbl.

Long Lake field: Alex McCutchins' No. 1 J. A. Reagan, 5,378-81 ft., 84 bbl.

A wildcat, Phillips Drilling Co.'s No. 1 Susie Hanks, W. C. Collingsworth Survey, 2 miles northeast of Bradford, dry and abandoned at 4,916 ft.

Franklin County

Talco field: Texas Co.'s No. 13 H. C. Barker, 4,131-4,276 ft., 293 bbl.

Freestone County

Worth field: McNeil Petroleum Co.'s No. 1 R. Simmons, 44 bbl. in 24 hours, pumping, 70 per cent salt water.

Smith County

A wildcat, Carmerson Corp.'s No. 1 Talbot Simpson, R. Walters Survey, 3 miles northeast of Winona, dry and abandoned at 5,508 ft.

Titus County

Talco field: Adams-Lyles' No. 1-A Bank of Mount Pleasant, 4,293-4,305 ft., 527 bbl.

California Fields

(Continued from Page 82)

have to be content with a relatively small pumper. This new well, with the installation of a pump, is doing 150 bbl. of 28.2-gravity oil per day and is showing a cut of 5 per cent.

San Joaquin Basin

Shell Oil Co., Inc., completed a good well in the Ten Section field of Kern County when No. 38-20-A Kern County Land in Section 20-30-26, was brought in flowing 950 bbl. of 35.1-gravity oil and 630,000 cu. ft. of gas per day from the Stevens sand at 8,190 ft. This well is in the north central part of the field.

Gulf Coast Fields

(Continued from Page 77)

area, Humble Oil & Refining Co.'s No. 1 Caldwell Sugars, Section 115-14s-15e, is drilling in shale below 12,432 ft. An electrical survey, which was run to 12,289 ft., is reported to have recorded no showings, although side-wall cores were reported to have been taken at 11,310-20 ft.

On the south flank of the Darrow dome, Ascension Parish, Humble Oil & Refining Co.'s No. 3-B Community showed promise of opening production from a deep sand when the well blew out after coring sand at 9,329-35 ft. It blew dry gas for several hours under a working pressure of 1,600 lb. The blowout broke one joint of drill stem and the well is reported to have been abandoned due to mechanical trouble. This is the deepest test drilled on this flank of the structure.

In the Neale field, Beauregard Parish, Atlantic Refining Co. was testing No. 1 Ira Spiers which will mark up a ½-mile southwest extension to the field. The well topped the Wilcox formation at 8,355 ft., and cored sand showing oil at 8,356-70 ft. It was drilled to a total depth of 8,440 ft., and is being completed through perforated casing. The sand section was logged at approximately the same level as in the discovery well. It is reported that Bayport Oil Co. has made location for No. 1 Musser-Davis Lumber Co. in Section 30-3s-10w, about 1 mile east of the discovery well.

Shell Oil Co., Inc., apparently opened distillate production from a new sand, and extended the Chalkley field in Cameron Parish about 1 mile southeast, as No. 1 Coastal Club flowed an unestimated quantity of distillate and gas through a ⅛-in. choke. The well was drilled to a total depth of 10,184 ft., and is being completed with 5½-in. casing cemented at 10,100 ft. Due to excessive gas pressure which ranged from 6,000 to 8,000 lb. the well has been killed to replace several chokes, which were being cut out by the excessive pressure.

In Cameron Parish Phillips Petroleum Co.'s No. 1 Miami Corp., Section 11-4s-6w, is bottomed at 10,655 ft., and the well is showing gas and salt water. It has logged several showings of gas and distillate, which will be tested after the well has been drilled to the contract depth.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

Brazoria County

Old Ocean field: Harrison & Abercrombie's No. 1 Chenault, 10,600 ft., 479 bbl., various chokes. West Columbia field: Texas Co.'s No. 38 Abrams, sand 5,551-75 ft., 297 bbl., ¼-in. choke.

Chambers County

Anahuac field: Humble Oil & Refining Co.'s No. 13 Broussard, sand 7,023-80 ft., 697 bbl., ¼-in. choke.

Fort Bend County

Thompson field: Humble Oil & Refining Co.'s No. 31 Davis, sand 4,355-62 ft., 100 bbl., ⅛-in. choke. Quintana Petroleum Corp.'s No. 13 Wolters, perforated casing at 5,384-92 ft., 582 bbl., ¼-in. choke.

Galveston County

Dickinson field: Pan American Production Co.'s No. 1 Moore, 8,542 ft., gas well. Pure Oil Co.'s No. 6 Stewart, perforated casing 8,311-21 ft., 128 bbl., 7/64-in. choke.

Harris County

Clear Lake field: Humble Oil & Refining Co.'s No. 44-C Humble-West, 5,899 ft., 146 bbl., ⅛-in. choke. Fairbanks field: Amerada Petroleum Corp.'s No. 17 White, perforated casing 6,836-41 ft., 120 bbl., ⅛-in. choke.

Jackson County

West Ranch field: W. R. R. Oil Co.'s No. 3 State, perforated casing 5,524-42½ ft., 616 bbl., ¼-in. choke. American Liberty Oil Co.'s No. 7 L. Ranch Co., perforated casing 5,732-43 ft., 381 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 54-A West, perforated casing 5,505-08 ft. and 5,515-26 ft., 528 bbl., ½-in. choke. Magnolia Petroleum Co.'s No. 77-A West, perforated

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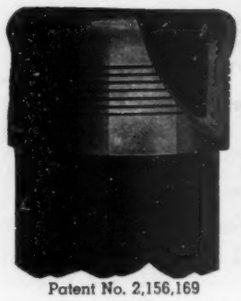

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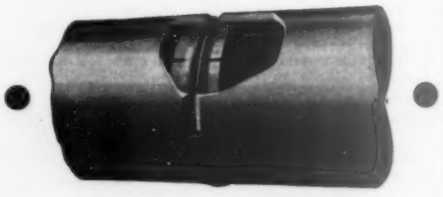

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casing 5,119-23 ft., 510 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 79-A West, perforated casing 5,578-86 ft., 501 bbl., ¼-in. choke.

Jefferson County

Lovells Lake field: Humble Oil & Refining Co.'s No. 15 Broussard, 6,803 ft., dry and abandoned. Humble Oil Refining Co.'s No. 11 Jefferson Land Co., sand 7,782-86 ft., 139 bbl., ⅛-in. choke.

Liberty County

Hardin field: O. W. Dyer's No. 3 Humphrey, 7,609 ft., 92 bbl., ⅛-in. choke.

Polk County

Segno field: Gulf Oil Corp.'s No. 33 Wing, sand 8,149-76 ft., 135 bbl., ¼-in. choke. Gulf Oil Corp.'s No. 34 Wing, sand 8,049-62 ft., 582 bbl., ¼-in. choke.

Wharton County

Magnet field: Humble Oil & Refining Co.'s No. 5 Blue Creek Ranch Co., sand 5,539-42 ft., 111 bbl., ⅛-in. choke. Withers field: Texas Co.'s No. 52-B Pierce estate, perforated casing 5,357-66 ft., 95 bbl., ⅛-in. choke. Texas Co.'s No. 72-C Pierce, sand 5,378-92 ft., 125 bbl., ⅛-in. choke.

Oklahoma Fields

(Continued from Page 86)

ray Oil Co.'s No. 2 Hefner, SE NW SW Section 12-1n-5w, Stephens County, building rig. T. H. McCasland's No. 1-B Horton, NW NE NE Section 17-3n-5w, and same operator's No. 1-C Wild, NE SE SE Section 28-3n-5w, Grady County, location. Magnolia Petroleum Co.'s No. 8 Sames, NW NE NE Section 35-6-10w, Caddo County, location. Pure Oil Co.'s No. 1 Chrisman, NE NE NE Section 29-5s-7e, Cumberland area, Marshall County, location for standard-tool test.

Miscellaneous Reports

Wagoner County: Keener Oil & Gas Co.'s No. 1 Bemore, SW NW NW Section 20-17-15, dry and abandoned at 1,896 ft. French Brothers' No. 1-A Mobbs, NE NW SE Section 20-18-17, total depth 388 ft., pumped 10 bbl. of oil daily. Same operators' No. 2 Land Association, SW SW NE Section 20-18-17, total depth 794 ft., gaged 100,000 cu. ft. of gas. C. F. Finefield's No. 1 Stiel, SW SE SW Section 33-18-18, dry and abandoned at 442 ft.

Muskogee County: C. B. Tierney's No. 3 Dillin, SW SW NE Section 17-13-16, total depth 2,095 ft., pumped 30 bbl. of oil daily.

Pittsburg County: Southeastern Oil & Gas Co.'s No. 2 Moran, C NW SE Section 19-3-12, dry and abandoned at 1,610 ft.

Latimer County: LeFlore County Gas & Electric Co.'s No. 1 Coley, C N½ SE NE NE Section 8-6-22, total depth 1,825 ft., gaged 1,100,000 cu. ft. of gas.

Sinclair Prairie Oil Co.'s No. 10 Stamper, SE SW NW Section 30-11-2w, Oklahoma County, had dug cellar and pits.

Kansas Fields

(Continued from Page 90)

coll, C N½ N½ SW Section 27-14-14w, Gurney pool, total depth 3,059 ft., 1,745 bbl. Stanolind Oil & Gas Co.'s No. 9-A Krug, C N½ S½ NE Section 27-14-14w, Gurney pool, total depth 3,051 ft., 1,636 bbl. R. H. Shields' No. 4 Giese, C N½ NW NE Section 28-14-13w, Hall pool, total depth 2,325 ft., 2,294 bbl. Coralena Oil Co.'s No. 10 Dumler, C N½ S½ NW Section 36-15-14w, Trapp field, total depth 3,317 ft., 1,811 bbl. Skelly Oil Co.'s No. 10 Rein, C S½ NW SE Section 8-15-13w, Trapp field, total depth 3,290 ft., 891 bbl. Jones & Shelburne's No. 5 Kuhnle, C N½ SW NW Section 4-15-12w, Greenvale pool, total depth 3,216 ft., 803 bbl.

McPherson County: Republic Natural Gas Co.'s No. 2 McMillan, C N½ SW SW Section 7-20-5w, Bornholdt pool, total depth 3,356 ft., 1,020 bbl. Same company's No. 1-B McMillan, C S½ NW SW Section 7-20-5w, Bornholdt pool, total depth 3,394 ft., 1,038 bbl. Same company's No. 2-B McMillan, C N½ NW SW Section 7-20-5w, total depth 3,389 ft., 1,020 bbl.

Stafford County: Cities Service Oil Co.'s No. 4-B Smith, NE NE SW Section 9-21-11w, Snider pool, total depth 3,423 ft., dry and abandoned. Stanolind Oil & Gas Co.'s No. 4 Hitz, C E½ NW NW Section 2-22-12w, Max pool, total depth 3,591 ft., 3,000 bbl. Deep Rock Oil Corp.'s No. 4 Turner, C N½ SE SW Section 2-24-11w, Zenith field, total depth 3,765 ft., 3,000 bbl.

Miscellaneous: Raymond Oil Co.'s No. 2 Schick, NE NW NW Section 28-17-4e, Marion County, total depth 2,418 ft., 380 bbl. Phillips Petroleum Co.'s No. 2 Brandenstein, C S½ SW NW Section 35-19-10w, Silica field, Rice County, total depth 3,291 ft., 1,141 bbl. Lloyd, Frost & Study's No. 1-A Haury, C N½ N½ SW Section 1-23-4w, Burrton field, Reno County, total depth 3,397 ft., 23 bbl. A Lyke's No. 5 Morris, SE SE NW Section 5-24-12, Greenwood County, total depth 1,808 ft., 35 bbl. Skelly Oil Co.'s No. 2 Maxedon, C W½ SW SE Section 25-27-11w, Cunningham field, Pratt County, total depth 3,469 ft., 545 bbl. United Production Co.'s No. 1 Miller, SW SW SE Section 24-33-39w, Hugoton field, Stevens County, total depth 2,630 ft., gaged 15,000,000 cu. ft. of gas.

New Field Work

First reports of new operations include the following:

Barton County: Texas Co.'s No. 8 Hoffman, CNL SE NW Section 6-16-13w, drilling below 1,660 ft.; Black-Marshall Oil Co.'s No. 1 Hoffman, NE NE SE Section 13-16-12w, spudded.

Butler County: Rex & Morris' No. 6-A Moss, NE NW NW Section 8-28-7, drilling below 730 ft.; National Refining Co.'s No. 15 Lathrop, CWL NE NW Section 17-23-4, drilling below 550 ft.; Strosnider and others' No. 1 Belton, SE cor. Section 3-25-5, cellar.

McPherson County: Ohio Oil Co.'s No. 2 Lindquist, CEL NE SE Section 19-20-5w, set casing at 168 ft.; same company's No. 3 Peterson, CWL NE SW Section 29-20-5w, location; Sunray Oil Co.'s No. 4 Lindquist, CEL SE NW Section 29-20-5w, set casing at 157 ft.; same company's No. 3 Mattson, CWL SE NE Section 30-20-5w, set casing at 160 ft.

Rice County: C. L. Carlock's No. 1 Duvall, C N½ NE NW Section 13-20-6w, building rotary rig; J. E. Crosbie, Inc.'s No. 1 Wright, CSL NE SE Section 13-20-6w, cellar; Westgate-Greenland Oil Co.'s No. 2 Hodges, CSL NW NE Section 25-20-6w, drilling below 2,940 ft.; McPherson Drilling Co.'s No. 1 Cramm, CSL NE SW Sec-

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tion 10-19-9w, drilling below 2,740 ft.; same company's No. 1 Patton, NE cor. Section 17-19-9w, rotary rig; Cities Service Oil Co.'s No. 1 Sledd, CNL NE SW Section 27-19-9w, drilling below 1,000 ft.; Brown-Willard Oil Co.'s No. 3 Renollet, NE SE SE Section 36-20-8w, rotary rig; Atlantic Refining Co.'s No. 3 Scott, CEL NW SE Section 20-20-10w, moving in.

Russell County: Earl Wakefield's No. 2 Meharg, NW SE SE Section 16-15-13w, spudded; Cities Service Oil Co.'s No. 2 Esfeld, SE NW NW Section 22-15-13w, location; Shell Oil Co., Inc.'s No. 12 Dumler, NW NW SW Section 36-15-14w, set casing at 628 ft.; Texas Co.'s No. 4 Rogg, NE SW NW Section 35-14-13w, set casing at 342 ft.; Gulf Oil Corp 's No. 1 Fink, CEL SE SE Section 15-14-14w, set casing at 206 ft.; Cities Service Oil Co.'s No. 3 Ebel, CSL SW SE Section 24-14-14w, location.

Miscellaneous: Deep Rock Oil Corp.'s No. 2 Heggy, CWL SW NE Section 10-24-11w, Stafford County, rigging up rotary. Transwestern Oil Co.'s No. 1-C Banker, CEL NW SE Section 10-24-11w, Stafford County, building rotary rig. Skelly Oil Co.'s No. 1 Steffens, C W½ SE Section 35-27-11w, Pratt County, building rig; same operator's No. 1 Armistead, CWL NW SE Section 2-28-11w, location. United Production Co.'s No. 1 King, NE NE SW Section 22-29-35w, Grant County, rigging up rotary. T. C. Johnson's No. 1 Lakman, CSL SE NW Section 10-9-16w, Rooks County, rigging up rotary; Lariaux & Harrington's No. 4 Fosberg, SE SW SW Section 21-17-4, Marion County, rigging up machine. Hawkeye Oil Co.'s No. 2 Moon, NE SW NW Section 21-32-5, Cowley County, location. Lario Oil & Gas Co.'s No. 6 Romine, CEL NW SW Section 18-11-16w, Ellis County, location. Cities Service Oil Co.'s No. 14 Collahan, CWL NE NE Section 24-11-17w, Ellis County, building rig.

Forest City Basin

ST. JOSEPH, Mo., June 10.—Abandonment of the discovery well in the Falls City, Neb., area seemed imminent as Pawnee Royalty Co. stopped work at No. 1 Boice, C NE NE Section 18-1n-16e, Richardson County. Hunton lime production has been accompanied by water and cementing jobs failed to stop water intrusion. The operators were expected to start another test on the same lease.

Two other wells in Richardson County were nearing Hunton lime. Harry Harper's No. 1 Sibbernsen, SE NE NW Section 20-1n-16e, may be completed this week. If oil is found it will extend the Falls City pool ¾ mile southeastward. Uhri Oil Co.'s No. 1 Ogle, NE NW SE SE Section 9-1n-14e, was drilling below 2,000 ft., expecting Hunton lime at about 2,235 ft. It is in the western part of the county, about 5 miles west of the town of Salem.

A failure was recorded in the Missouri sector of the basin at George Moore and others' No. 1 Moss, NW SW SE Section 30-65-24w, Mercer County. It was abandoned at 2,330 ft., after finding Arbuckle lime at 2,015 ft.

After George Vincent's No. 1 Dillingham, C NE SW Section 16-53-34w, Platte County, Missouri, wildcat, showed water in Hunton lime and was said to be checking at least 100 ft. low, abandonment seemed imminent. Mississippi lime was found at 1,063-1,445 ft., there was 30 ft. of Kinderhook shale, and Hunton lime was penetrated from 1,475 ft. to 1,485 ft. The operator was reported planning another test.

West Texas Fields

(Continued from Page 88)

ft. and the well began flowing naturally at the estimated rate of 400 bbl. daily. It was last reported shut in for the erection of storage.

The new area lies about 8 miles northwest of the Palo Pinto lime Avoca and Griffin fields. Not following the definite trend that guided the exploration last summer, the new field is on a trend almost perpendicular to the Ivy-Avoca-Griffin field trend.

Gunsight Field Indicated

Another new field in Jones County from the Gunsight lime has been indicated at a test being drilled a mile northeast of the Guitar field and near the town of Hawley. It is J. C. Hunter and others' No. 1 Sayles & Jarrell, Subdivision 8, Robert Smith Survey 192. The well bailed at the rate of 1 bbl. of oil hourly from a lime section at 2,234-45 ft., believed to be the Gunsight. Casing has been cemented for a test and plug is scheduled to be drilled the first of this week. Completion for an oil well will mark the second such lime field opened in the county during the past month.

TEXAS PANHANDLE COMPLETIONS

Carson County

Gulf Oil Corp.'s No. 28 Cooper, 3,092-3,141 ft., 207 bbl.

Gray County

King Oil Co.'s No. 14 Horner, 3,210-60 ft., 322 bbl. Nabob Oil Co.'s No. 6 Morse A, dry and abandoned at 2,970 ft. Texas Co.'s No. 4 Pope, 3,180-3,290 ft., 158 bbl. Skelly Oil Co.'s No. 108 Schaffer, 3,219-98 ft., 323 bbl.

Hutchinson County

Gulf Oil Corp.'s No. 97 Dial, 2,835-2,946 ft., 129 bbl. J. M. Huber Corp.'s No. 1 Carver, 3,021-3,151 ft., 11,100,000 cu. ft. gas. Harvester Oil Co.'s No. 7 Haile, 3,041-56 ft., 660 bbl. Phillips Petroleum Co.'s No. 45 Cockrell, 2,860-2,974 ft., 129 bbl. Shell-Sinclair Prairie's No. 10 Phillips, dry and abandoned at 3,330 ft. Stanolind Oil & Gas Co.'s No. 14 Ware, 2,996-3,076 ft., 243 bbl. Stekol Oil Co.'s No. 7 Whittenburg, 2,950-3,055 ft., 180 bbl. Texas Co.'s No. 28 Pond, 2,980-3,040 ft., 580 bbl.

Eastern Fields

(Continued from Page 97)

New Work

Boone County: Hope Natural Gas Co.'s No. 1 (8507) F. B. Nelson, Washington district, elevation 1,287 ft., and No. 1 (8508) Dora E. Hopkins, Washington district, elevation 1,389 ft.

Brooks County: Wheeling Steel Corp.'s Nos. 107 and 108 Cyrus Ferguson, Cross Creek district, elevation 720.5 ft.

Calhoun County: Hope Natural Gas Co.'s No. 8504 E. W. Gainer, Sherman district, elevation 1,053 ft.; W. H. Bickel's No. 2 B. B. Belford, Center district, elevation 915.5 ft.

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ont., June 8.—In addition to 103 crude-oil wells which recently were given an aggregate allowable of 18,000 bbl. a day, nine other Turner Valley crude wells are being given production tests, the flush from these wells increasing Turner Valley pipe-line runs to around 21,000 bbl. a day.

In Section 15-20-3w5, North Turner Valley, Anglo-Phillips' No. 1, LSD 14, finished at 9,058 ft., has had cal-seal plug set to shut off bottom water from the lower zone and tests are continuing.

In Section 18-19-2w5, West Central Turner Valley, Davies Petroleums' No. 5, LSD 10, finished at 7,391 ft., was acidized and is being tested. Calmont-Northwest's No. 1, LSD 3, same section, bottoming at 7,609 ft., is being tested for allowable.

In Section 7-19-2w5 Royalite Oil Co.'s No. 48, LSD 10, finished at 7,533 ft., flowed over 1,800 bbl. a day through 1-in. choke, and looks like a large producer.

In Section 6-19-2w5 Kamalta Oils' No. 1, LSD 1, finished at 8,128 ft., was acidized in the lower zone and is showing increased production. Casing in the upper zone is being perforated for acidizing and testing. East Crest Oil Co.'s No. 5, LSD 9, same section, with temporary allowable of 271 bbl., is reacidizing to increase production.

In Section 32-18-2w5 Royal Canadian Oil Co.'s No. 4, LSD 12, bottoming at 8,089 ft., is waiting for compressor.

In Section 20-18-2w5 York Oils' No. 3, LSD 3, was finished at 8,024 ft. In Section 17-18-2w5 Royalite Oil Co.'s No. 50, LSD 7, was finished at 7,790 ft. In Section 8-18-2w5 Northwest-Hudson's Bay Co.'s No. 3, LSD 15, finished at 8,120 ft.. All three were being tested for allowable.

Tests in the Lime

In Section 27-20-3w5, North Turner Valley, Foothills Oil & Gas Co.'s No. 6, LSD 5, is below 7,819 ft. after getting the Madison at 7,668 ft.

In Section 34-20-3w5 Alberta Oil Incomes' No. 1, LSD 4, got the Madison limestone at 6,340 ft. The lime here was much shallower than anticipated, comparing with 7,688 ft. in Home Oil Co.'s No. 3, to the west, and 8,032 ft. in Home's No. 2 Millarville, still farther west, indicating that Incomes' No. 1 is near the apex of the structure.

In Section 5-19-2w5, West Central Turner Valley, Royalite's No. 51, LSD 13, got the Madison limestone at 6,964 ft. and is preparing to deepen after cementing production string 20 ft. in the lime.

Southwest Turner Valley

In Section 8-18-2w5, Southwest Turner Valley, Northwest-Hudson's Bay Co.'s No. 4, LSD 14, is below 882 ft. after setting 13⅜-in. casing at 803 ft.

In Section 29-18-2w5 Commoll's No. 3, LSD 13, is below 7,757 ft. after getting the Home sand at 7,622 ft.

In Section 32-18-2w5 Pacific Petroleums' No. 4, LSD 3, is in the Blairmore formation below 6,647 ft.

West Central Field

In Section 5-19-2w5, West Central Turner Valley, Royalite's No. 52, LSD 12, is below 949 ft. after setting 13⅜-in. casing.

In Section 6-19-2w5 Allied Royalties' No. 1, LSD 16, is below 300 ft. Location is north of the East Crest Oil Co.'s producers.

In Section 7-19-2w5 Pacific Petroleums' No. 5, LSD 6, is below 6,125 ft. after getting the Jumping Pound sand at 5,910 ft.

In Section 8-19-2w5 Southwest Petroleum Co.'s No. 4, LSD 4, is in the upper Benton formation below 1,859 ft.

In Section 13-19-3w5 Arrow Royalties' No. 2, LSD 15, is in the Belly River formation below 1,242 ft. Twin Valley Syndicate's No. 1, LSD 9, is below 922 ft. and setting 13⅜-in. casing.

In Section 18-19-2w5, Okalta Oil Co.'s No. 9, LSD 13, is in the Benton formation below 4,555 ft. Calmont-Northwest's No. 2, LSD 5, has secured drilling permit.

In Section 24-19-2w5 National-Vulcan's No. 1, LSD 14, will probably spud this month. Location is 1½ miles northwest of Arrow Royalties' No. 1 producer.

North Turner Valley

In Section 27-20-3w5 Foothills Oil & Gas Co. has secured permit for No. 7 in LSD 4. Location is south of No. 6, which is drilling in the lime. Foothills' No. 5, located in LSD 14, is being left in abeyance.

In Section 28-20-3w5 Home Oil Co.'s No. 5, LSD 16, is in the upper Benton formation below 1,130 ft.

In Section 33-20-3w5 Home's No. 1, LSD 8, is below 1,096 ft.

In Section 4-21-3w5 Alberta Oil Incomes' No. 2, LSD 4, is fishing for drill pipe at 6,136 ft.

Mar Jon Operations

In the Whiskey Creek area, north and west of North Turner Valley, Mar Jon Oil Co.'s No. 5, LSD 1, Section 5-22-4w5, standing for several months at 2,270 ft., will likely be abandoned. Drilling was discontinued last December when Rabson's No. 1 on the Jumping Pound structure north and west of the Mar Jon well encountered a major fault; and later National Petroleum Corp.'s No. 3 in Waite Valley, farther south, encountered similar faulting, indicating that the Mar Jon test would almost certainly meet the same conditions.

The Mar Jon company is interested in Mar Jon-Maxmont's No. 4, LSD 10, Section 20-9-2w5, on the Watson structure. This cable-tool test has reached considerable depth and is continuing. In the Willow Creek area a block of Mar Jon acreage will be tested by Oilfield Development Co. and associated interests, which have No. 1 location in LSD 7, Section 7-13-2w5, and will likely start work within a few weeks.

Tests in the Foothills

On the Brazeau structure in the northern foothills Home Oil Co.'s No. 1, LSD 16, Section 7-43-17w5, has a fishing job at 8,542 ft. Test is in the Fernie shales near the top of the Madison lime, with considerable gas indicated.

In the Clearwater-Ram River area Ram River Oils' No. 2, Section 1-37-11w5, is drilling, after cementing surface pipe in the top of the Devonian at 14 ft.

In the Sheppard Creek area, south of Turner Valley, Alberta Pacific's No. 1, LSD 6, Section 7-16-2w5, is below 4,520 ft.

On the Mill Creek structure Alliance Royalties' No. 1, LSD 14, Section 11-6-2w5, is in the Blairmore formation below 2,410 ft., after running casing to 1,791 ft.

Steveville Field

In the Steveville field, east of Calgary, Standard of British Columbia's No. 1 Princess, LSD 13, Section 22-20-12w4, bottoming in the Devonian limestone at 6,155 ft., has completed test of the first perforated section of 42 ft. Packer has been set and a second porous horizon is being perforated and tested. The first perforated area at the bottom of the hole showed a flow of noninflammable gas, about 1,000,000 cu. ft. a day. Samples are being tested to determine whether it is helium, small quantities of which were discovered more than 20 years ago in the gas from the Bow Island field. Standard's No. 1 Tide Lake, LSD 9, Section 19-18-9w4, will start work as soon as testing at Princess' No. 1 is completed.

Quarantine Reserve Area

In the border area of southern Alberta F. P. Byrne and associates of Calgary are sponsoring a systematic drilling program for the Quarantine Reserve tract east of Coutts, on acreage secured by Leo S. Sweeney. Holdings total 10,084 acres in Townships 1-13w4 and 1-14w4, and the first of a series of structure tests by Joe Maughan has been carried below 150 ft. Operations are based on the belief that a structural nose extends north from the Montana fields into Alberta, and, in the absence of outcrops, the structure tests are expected to show a definite closure to the north. The Quarantine Reserve area was extensively drilled in 1922 and 1923. Most of the wells finished at shallow depth but Urban Oils' No. 1, LSD 2, Section 4-1-15w4, and Coutts-Sweetgrass' No. 1, LSD 1, Section 1-1-15w4, carried to around 3,000 ft., both showed oil and gas in several horizons. It is now believed that acidizing would have resulted in commercial production. The new field is somewhat east of the earlier drilling operations, being about 9 miles east of Coutts.

Border Fields

On the Twin River structure in southern Alberta Buckley Oils' No. 1, LSD 4, Section 23-1-20w4, is digging cellar.

On the Del Bonita structure Western Drilling Co.'s No. 1 has location in LSD 5, Section 18-1-21w4. Golden View Petroleums' No. 1, LSD 12, Section 17-1-21w4, is moving equipment and material.

On the Spring Coulee structure E. L. Cord's No. 1, LSD 16, Section 35-3-23w4, bottoming in the lime at 6,081 ft., has shut off upper water and is cleaning hole to acidize and test production in the saturated zone. E. L. Cord's No. 2 has been spotted in LSD 1, Section 2-4-23w4, and No. 3 in LSD 16, Section 35-3-23w4.

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12 sizes of WISCONSIN air-cooled engines are available for your equipment. Power range 1 to 35 H.P.

Wisconsin Motor Corporation
MILWAUKEE, WISCONSIN, U. S. A.

WRITE TO HARLEY SALES CO.
510 ATLAS BLDG., TULSA, OKLA.
M & M BLDG., HOUSTON, TEXAS

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well location, and county—	S.T.R.	Depth	Status
Union Oil, No. 2 Austin, Dominguez, Los Angeles	29- 3-13	7,470	completing
Union Oil, No. 3 Austin, Dominguez, Los Angeles	32- 3-13	1,984	sd. sh. drlg.
Union Oil, No. 14 Carson, Dominguez, Los Angeles	33- 3-13	8,095	P.B. 7,444
Shell Oil, No. 104 Reyes, Dominguez, Los Angeles	33- 3-13	7,575	P.B. 7,535
Seaport Oil, No. 1 Dasteel, Dominguez, Los Angeles	32- 3-13	8,100	O.S. drlg.
Wood-Mellon Oil, No. 1 West, Dominguez, Los Ang.	31- 3-13	3,998	sd. sh. drlg.
Mission Oil, No. 1 Pierce, Rosecrans, Los Angeles	20- 3-13	7,450	sd. sh. drlg.
National Oil, No. 1 Wolfe, Rosecrans, Los Angeles	20- 3-13	2,996	sd. sh. drlg.
So. Cal. Pet., No. 2 Rowena, Rosecrans, Los Angeles	19- 3-13	5,941	sd. sh. drlg.
St. Anthony Oil, No. 2 Gordon, Rosecrans, Los Ang.	19- 3-13	3,060	sd. sh. drlg.
Union Oil, No. 42 Rosecrans, Rosecrans, Los Ang.	19- 3-13	2,164	sd. sh. drlg.
Chicago Oil, No. 1 Founders, Rosecrans, Los Angeles	20- 3-13	7,350	O.S. drlg.
Thorley Oil, No. 1 Athens, Rosecrans, Los Angeles	7- 3-13	6,398	O.S. drlg.
Inca Oil, No. 1 Union, Rosecrans, Los Angeles	18- 3-13	7,016	mill. 4,905
El Rey Oil, No. 1 Westmore, Athens, Los Angeles	2- 3-14	9,000	pump 110 b.d.
Federal Oil, No. 1 Smith, Inglewood, Los Angeles	7- 2-14	6,702	sd. sh. drlg.
Bush Oil, No. 1 Sentous, Inglewood, Los Angeles	17- 2-14	3,996	sd. sh. drlg.
Turf Oil, No. 1 H.R.A., Potrero, Los Angeles	34- 2-14	8,446	P.B. 8,390
Tide Water A. O., No. 14 Porter, Aliso Canyon, L. A.	27- 3-16	1,250	sd. sh. drlg.
Tide Water A. O., No. 15 Porter, Aliso Canyon, L. A.	27- 3-16	4,240	sd. sh. drlg.
Tide Water A. O., No. 22 Porter, Aliso Canyon, L. A.	27- 3-16	3,985	sd. sh. drlg.
Brit. Amer. Oil, No. 1 Perkins, Newhall, Los Angeles	14- 3-16	5,505	sd. sh. drlg.
Creighton-Hammon Synd., No. 1 C-H, Newhall, L. A.	17- 3-16	550	sd. sh. drlg.
Havenstrite, R. E., No. 1 Lincoln, Newhall, L. A.	16- 4-17	1,188	sd. sh. drlg.
Barnsdall Oil, No. 9 R.S.F., Newhall, Los Angeles	27- 4-17	7,195	P.B. 7,120
Barnsdall Oil, No. 11 R.S.F., Newhall, Los Angeles	26- 4-17	4,550	sd. sh. drlg.
Barnsdall Oil, No. 12 R.S.F., Newhall, Los Angeles	26- 4-17	1,998	sd. sh. drlg.
General Pet., No. 2 P.E., Wilmington, Los Angeles	35- 4-13	4,120	P.B. 3,790
Atlantic Oil, No. 16 Harbor, Wilmington, Los Angeles	33- 4-13	2,794	sd. sh. drlg.
Barnhart & Morrow, No. 2 Comm., Wilming., L. A.	32- 4-13	3,130	sd. sh. drlg.
Bernstein, Simon, No. 16 Harbor, Wilmington, L. A.	35- 4-13	3,316	O.S. drlg.
Coast Line Oil, No. 1 Harbor, Wilmington, Los Ang.	32- 4-13	2,282	sd. sh. drlg.
Continental Corp., No. 6 L.A.C.F.C., Wilming., L. A.	2- 5-13	3,010	O.S. drlg.
Dumm Bros. Pet., No. 6 Harbor, Wilmington, L. A.	32- 4-13	2,690	sd. sh. drlg.
Hamarson Oil, No. 3 Harbor, Wilmington, Los Ang.	35- 4-13	3,475	O.S. drlg.
Long Beach Dev., No. 13-W Harbor, Wilming., L. A.	3- 5-13	4,072	O.S. drlg.
Long Beach Dev., No. 14-W Harbor, Wilming., L. A.	10- 5-13	4,006	O.S. drlg.
M. A. K. Pet., No. 2 Harbor, Wilmington, Los Ang.	35- 4-13	3,440	flow 175 b.d.
Power, E. D., No. 17 Harbor, Wilmington, L. A.	35- 4-13	3,199	cmtd. 3,180
Union Pacific R. R., No. 135, Wilmington, Los Ang.	4- 5-13	5,610	rig to pump
Union Pacific R. R., No. 138, Wilmington, Los Ang.	3- 5-13	3,922	flow 580 b.d.
Union Pacific R. R., No. 140, Wilmington, Los Ang.	4- 5-13	5,310	sd. sh. drlg.
Union Pacific R. R., No. 142, Wilmington, Los Ang.	3- 5-13	3,397	sd. sh. drlg.
Union Pacific R. R., No. 143, Wilmington, Los Ang.	3- 5-13	2,719	sd. sh. drlg.
Union Pacific R. R., No. 145, Wilmington, Los Ang.	3- 5-13	3,825	sd. sh. drlg.
Union Pacific R. R., No. 146, Wilmington, Los Ang.	3- 5-13	2,650	sd. sh. drlg.
Union Pacific R. R., No. 25-E Wilmington, Los Ang.	3- 5-13	3,660	sd. sh. drlg.
Vulcan Oil, No. 2-W Harbor, Wilmington, Los Ang.	32- 4-13	3,630	sd. sh. drlg.
Union Oil, No. 12 Sansinena, Whittier, Los Angeles	31- 2-10	4,003	sd. sh. drlg.
Kern Oil, No. 25 Monterey, Montebello, Los Angeles	2- 2-12	7,785	flow 1,820 b.d.
Kern Oil, No. 28 Monterey, Montebello, Los Angeles	2- 2-12	6,731	will deepen
Kern Oil, No. 31 Monterey, Montebello, Los Angeles	2- 2-12	7,865	completing
Kern Oil, No. 42 Monterey, Montebello, Los Angeles	2- 2-12	5,090	sd. sh. drlg.
Kern Oil, No. 3 Taylor, Montebello, Los Angeles	2- 2-12	7,669	cleaning out
Kern Oil, No. 3 Eggleston, Montebello, Los Angeles	2- 2-12	7,800	flow 550 b.d.
Chemical Oil, No. 1 Chemiculture, Montebello, L. A.	12- 2-12	6,930	sd. sh. drlg.
Columbia Oil, No. 1 Schelnik, Montebello, Los Ang.	3- 2-12	8,154	dry; abd.
Mabee Co., No. 6 Mulholland, Montebello, Los Ang.	2- 2-12	7,670	cleaning out
Montebello Oil, No. 2 Wallace, Montebello, Los Ang.	3- 2-12	7,678	swabbing
Mont. Reservoir Oil, No. 1 Mont., Montebello, L. A.	2- 2-12	7,637	fish packer
Standard Oil, No. 1 Kaufman, Montebello, L. A.	2- 2-12	7,859	tested wet
Texas Co., No. 4 Wilcox, Montebello, Los Angeles	3- 2-12	7,666	flow 225 b.d.
Allied Pet., No. 34 Signal, Long Beach, Los Angeles	30- 4-12	10,640	pump 125 b.d.
Dormax Oil, No. 2 Signal, Long Beach, Los Angeles	30- 4-12	5,342	fish D.P.
Exeter Oil, No. 3 Olson, Long Beach, Los Angeles	19- 4-12	4,597	cleaning out
Mitchell Oil, No. 1 R.B., Long Beach, Los Angeles	19- 4-12	4,250	rig to pump
Bush, S. C., No. 3 Exchange, Long Beach, Los Ang.	30- 4-12	2,398	sd. sh. drlg.
Tucker, H. M., No. 1 Heath, Buena Park, Orange	34- 3-11	7,660	gr. sd. drlg.
Bartholomae Oil, No. 9 Stern, East Coyote, Orange	22- 3-10	7,000	sd. sh. drlg.
Standard Oil, No. 70 Emery, West Coyote, Orange	24- 3-11	1,181	sd. sh. drlg.
Southwest Expl., No. 29 State, Huntington B., Orange	10- 6-11	3,560	sd. sh. drlg.
Standard Oil, No. 41 Bolsa, Huntington B., Orange	34- 5-11	3,800	P.B. 2,600
Termo Co., No. 409-4 State, Huntington B., Orange	10- 6-11	4,719	redrlg. 2,385
Bolsa Chica Oil, No. 6 Wilson, Huntington B., Orange	10- 6-11	2,761	sd. sh. drlg.
South Basin Oil, No. 93 H.B., Huntington B., Orange	2- 6-11	5,995	pump 35 b.d.
Continental Oil, No. 3 Bixby, Seal Beach, Orange	11- 5-12	4,775	will redrill
United Oil, No. 1 Schimming, Stanton, Orange	25- 4-11	9,315	idle

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well location, and county—	S.T.R.	Depth	Status
Cole, F. E., No. 1 Giacomini, Santa Maria, S. Barb.	24-10-35	4,806	recmtd. 4,640
Union Oil, No. 22 Squires, Santa Maria, Santa Barbara	26- 9-34	3,476	br. sh. drlg.
Oil Croup, No. 1 Hyland, Summerland, Sant. Barbara	16- 4-26	2,780	sd. sh. drlg.
Petrol Corp., No. 3-15 Tognazzini, Gato Ridge, S. Barb.	15- 8-32	2,540	br. sh. drlg.
El Rancho Oil, No. 4 Elkins, Shiells Canyon, Ventura	9- 3-19	2,770	sd. sh. drlg.
Santa Clara Oil, No. 1 Well, Shiells Canyon, Ventura	3- 3-19	2,460	sd. sh. drlg.
Texas Co., No. 139 Shiells, Shiells Canyon, Ventura	4- 3-19	2,612	pump 45 b.d.
Rio Hondo Oil, No. 1 Cosby, Hopper Canyon, Ventura	14- 4-19	1,291	sd. sh. drlg.
G. E. Dev., No. 7 Hill, Hopper Canyon, Ventura	13- 4-19	850	sd. sh. drlg.
Merchants Pet., No. 8 Cochran, Sespe, Ventura	1- 4-20	2,392	sd. sh. drlg.
C. C. M. Oil, No. 34-B Hobson, Rincon, Ventura	16- 3-24	2,480	sd. sh. drlg.
C. C. M. Oil, No. 35-B Hobson, Rincon, Ventura	16- 3-24	5,000	sd. sh. drlg.
Tide Water A. O., No. 7 V.L.W., Ventura A., Ventura	23- 3-23	7,140	redrlg. 6,782
Tide Water A. O., No. 46 V.L.W., Ventura A., Ventura	24- 3-23	6,607	sd. sh. drlg.
Tide Water A. O., No. 17 McGonigle, Vent. A., Vent.	23- 3-23	9,696	O.S. drlg.
Tide Water A. O., No. 116 Lloyd, Ventura A., Ventura	26- 3-23	2,141	sd. sh. drlg.
Tide Water A. O., No. 119 Lloyd, Ventura A., Ventura	27- 3-23	8,838	flow 25 b.d.
Tide Water A. O., No. 22 Hartman, Vent. A., Ventura	22- 3-23	8,308	hd. sh. drlg.
Tide Water A. O., No. 25 Hartman, Vent. A., Ventura	22- 3-23	7,092	sd. sh. drlg.
Shell Oil, No. 116 Taylor, Ventura Ave., Ventura	29- 3-23	7,520	flow 2,665 b.d.
Shell Oil, No. 117 Taylor, Ventura Ave., Ventura	21- 3-23	8,343	recmtd. 8,148
Shell Oil, No. 119 Taylor, Ventura Ave., Ventura	29- 3-23	5,277	sd. sh. drlg.
Shell Oil, No. 120 Taylor, Ventura Ave., Ventura	29- 3-23	718	sd. sh. drlg.
Cal. Alliance Pet., No. 1 Schmidt, Ventura A., Ventura	21- 3-23	8,440	sd. sh. drlg.
British American Oil, No. 1 Barn, Ventura A., Vent.	22- 3-23	8,208	hd. sh. drlg.
British American Oil, No. 10 Hart., Ventura A., Vent.	21- 3-23	6,874	sd. sh. drlg.
Lloyd Corp., No. 5 Dabney, Ventura Ave., Ventura	24- 3-23	7,010	sd. sh. drlg.
Standard Oil, No. 1 Rideout, Delano gas field, Kern	34-24-23	2,529	P.B. 2,460
North Kern Oil, No. 1 Ranch, Fowler, Kern	16-25-22	6,394	gr. sd. drlg.
General Pet., No. 1 K.P.C., Lost Hills, Kern	16-26-22	6,025	dry; abd.
Freda Oil, No. 3 Laymance, McKittrick, Kern	20-30-22	1,242	rig to pump
Hoyt, Otis, No. 1 Young, McKittrick, Kern	6-30-22	2,090	sd. sh. drlg.
Burrhus, V. E., No. 1 Front, McKittrick, Kern	30-30-22	2,390	sd. sh. drlg.
Belridge Oil, No. 7-1 fee, North Belridge, Kern	1-28-20	6,872	sd. sh. drlg.
Belridge Oil, No. 10-1 fee, North Belridge, Kern	1-28-20	7,955	sd. sh. drlg.
Belridge Oil, No. 3-35 fee, North Belridge, Kern	35-27-20	8,400	redrlg. 6,497
Continental Oil, No. 4 Result, North Belridge, Kern	36-27-20	7,482	sd. sh. drlg.
Tide Water A. O., No. 33-21 Bel., N. Belridge, Kern	21-27-20	5,262	sd. sh. drlg.
Texas Co., No. 1 Theta, Shale Hills, Kern	12-28-19	3,395	redrlg. 3,360
Bolling Oil, No. 1 Quinn, Jasmine, Kern	14-25-27	2,140	sd. sh. drlg.
Hall-Baker, No. 1 Villard, Mount Poso, Kern	18-26-28	1,910	gr. sd. drlg.
Hast Oil, No. 9 Kern, Kern River, Kern	34-28-28	400	O.S. drlg.
Helm & Smith, No. 20 Kern, Kern River, Kern	34-28-28	694	pump 5 b.d.
Kern Hills Oil, No. 1 Brown, Kern River, Kern	27-28-28	443	O.S. drlg.
Hope Oil, No. 4 Gray, Kern River, Kern	8-29-28	....	rigged up
Crestmont Oil, No. 3 Coffee, Round Mountain, Kern	8-28-29	1,415	rig to pump
Grizzley Bear Oil, No. 4 Kelly, Round Mount., Kern	6-28-29	1,815	idle
Monterey Expl., No. 15 Shell-Duff, Edison, Kern	15-30-29	1,731	will P.B.
Monterey Expl., No. 8 Hershey, Edison, Kern	14-30-29	1,399	sd. sh. drlg.
Gooden, Fred, No. 1 Needham, Edison, Kern	21-30-29	3,595	pump 140 b.d
Goodrum & Vincent, No. 5 S.P., Edison, Kern	31-29-30	533	idle
Universal Consd. Oil, No. 3 Cattani, Arvin, Kern	15-31-29	4,860	sd. sh. drlg.
Morton, L. C., No. 1 Jewett, Arvin, Kern	23-31-29	6,766	dry; abd.
Western Gulf Oil, No. 45-B, KCL, Fruitvale, Kern	22-29-27	4,410	P.B. 3,770
Standard Oil, No. 5 Mushrush, Wasco, Kern	7-27-24	8,103	sd. sh. drlg.
Pacific Western Oil, No. 1 Meyer, Wasco, Kern	7-27-24	8,135	sd. sh. drlg.
General Pet., No. 5 Caldwell, Rio Bravo, Kern	35-28-25	4,584	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg., or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill-stem test.
D.P., drill pipe.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe-line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrk. or St., sidetracked.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel-line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas, and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.O.O., waiting on orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Union Oil, No. 45-34, KCL, Rio Bravo, Kern	34-28-25	11,470	flow 1,625 b.d
Union Oil, No. 56-34, KCL, Rio Bravo, Kern	34-28-25	7,996	sd. sh. drlg.
Union Oil, No. 63-34, KCL, Rio Bravo, Kern	34-28-25	10,250	sd. sh. drlg.
Superior Oil, No. 3-1 Osborn, Rio Bravo, Kern	28-28-25	11,300	O.S. drlg.
Superior Oil, No. 2 Roe, Rio Bravo, Kern	27-28-25	3,965	sd. sh. drlg.
Superior Oil, No. 1 Merrill, Greeley, Kern	1-29-25	11,500	flow 1,320 b.d.
Superior Oil, No. 1 Brandt, Greeley, Kern	28-29-26	9,840	hd. sh. drlg.
Standard Oil, No. 11-22, KCL, Greeley, Kern	18-29-26	10,140	sd. sh. drlg.
Standard Oil, No. 12-9, KCL, Greeley, Kern	7-29-26	9,272	sd. sh. drlg.
Standard Oil, No. 12-10, KCL, Greeley, Kern	7-29-26	5,764	sd. sh. drlg.
General Pet., No. 1 Wallace, Greeley, Kern	1-29-25	2,160	sd. sh. drlg.
Shell Oil, No. 38-20-A, KCL, Ten Section, Kern	20-30-26	8,190	flow 950 b.d.
Shell Oil, No. 8-19-A, KCL, Ten Section, Kern	19-30-26	5,384	sd. sh. drlg.
Shell Oil, No. 21-30-A, KCL, Ten Section, Kern	30-30-26	2,464	sd. sh. drlg.
Shell Oil, No. 87-29-A, KCL, Ten Section, Kern	31-30-26	7,050	sd. sh. drlg.
Ohio Oil, No. 19-E, KCL, Canal, Kern	13-30-25	8,265	cleaning out
Richfield Oil, No. 18-28-A, KCL, Tupman, Kern	28-30-25	7,980	sd. sh. drlg.
Richfield Oil, No. 36-28-A, KCL, Tupman, Kern	28-30-25	2,994	sd. sh. drlg.
Richfield Oil, No. 58-28-A, KCL, Tupman, Kern	28-30-25	8,298	sd. sh. drlg.
Richfield Oil, No. 78-30-A, KCL, Tupman, Kern	30-30-25	8,290	sd. sh. drlg.
Richfield Oil, No. 72-32-A, KCL, Tupman, Kern	32-30-25	7,972	sd. sh. drlg.
Richfield Oil, No. 14-33-A, KCL, Tupman, Kern	33-30-25	7,285	sd. sh. drlg.
Richfield Oil, No. 18-33-A, KCL, Tupman, Kern	33-30-25	8,790	sd. sh. drlg.
Richfield Oil, No. 34-33-A, KCL, Tupman, Kern	33-30-25	7,895	sd. sh. drlg.
Richfield Oil, No. 52-33-A, KCL, Tupman, Kern	33-30-25	6,486	sd. sh. drlg.
Richfield Oil, No. 54-33-A, KCL, Tupman, Kern	33-30-29	8,680	sd. sh. drlg.
Richfield Oil, No. 34-29-A, KCL, Tupman, Kern	29-30-25	8,160	sd. sh. drlg.
Richfield Oil, No. 38-29-A, KCL, Tupman, Kern	29-30-25	6,998	sd. sh. drlg.
Richfield Oil, No. 276-29-A, KCL, Tupman, Kern	29-30-25	9,004	O.S. drlg.
Richfield Oil, No. 78-28-B, KCL, Cole's Levee, Kern	28-30-25	8,000	sd. sh. drlg.
Richfield Oil, No. 54-4-B, KCL, Cole's Levee, Kern	4-31-25	8,703	sd. sh. drlg.
Standard Oil, No. 20-6, KCL, Cole's Levee, Kern	5-31-25	8,660	hd. sh. drlg.
Ohio Oil, No. 8-F, KCL, Cole's Levee, Kern	11-31-25	9,720	O.S. drlg.
Ohio Oil, No. 9-F, KCL, Cole's Levee, Kern	3-31-25	7,384	sd. sh. drlg.
Foster, Robert, No. 1 Hollingsworth, Midway-Sun., K.	22-32-23	2,140	sd. sh. drlg.
Exeter Oil, No. 8 Murphy, Midway-Sunset, Kern	28-32-24	2,300	sd. sh. drlg.
Signal Oil & Gas, No. 8 Kendon, Midway-Sun., Kern	35-32-23	1,681	sd. sh. drlg.
McDonald, Joseph, No. 20 Midway, Mid.-Sun., Kern	26-31-22	1,532	pump 50 b.d.
Republic Pet., No. 1 C.H., Midway-Sunset, Kern	18-32-23	1,910	O.S. drlg.
Ohio Oil, No. 43-3-B, KCL, Paloma, Kern	3-32-26	10,361	cleaning out
Western Gulf-Texas, No. 74-3-A, KCL, Paloma, Kern	3-32-26	10,700	testing
Richfield Oil, No. 1 Ranch, Tejon Ranch, Kern	2-10-19	6,300	basalt drlg.
Richfield Oil, No. 2, KCL, Wheeler Ridge, Kern	28-11-20	3,691	hd. sd. drlg.
Erickson & Swanson, No. 2 Gravender, Kings., Fres.	22-16-22	1,250	hd. sh. drlg.
Logan, J. E., No. 44 Yearout, Cantua, Fresno	26-16-14	6,450	sd. sh. drlg.
Jergins Trust, No. 1 Cheney, Panoche Creek, Fresno	29-14-13	9,225	P.B. 7,350
Texas Co., No. 1 S.P., Turk Anticline, Fresno	23-17-15	10,116	testing
Shell Oil, No. 45-2, East Coalinga, Fresno	2-20-15	3,745	cleaning out
Standard Oil, No. 68-19-B fee, NE Coalinga, Fresno	19-19-16	8,270	completing
Standard Oil, No. 77-19-B fee, NE Coalinga, Fresno	19-19-16	6,688	sd. sh. drlg.
Standard Oil, No. 82-19-B fee, NE Coalinga, Fresno	19-19-16	7,968	recmtd. 7,963
Standard Oil, No. 86-19-B fee, NE Coalinga, Fresno	19-19-16	6,070	sd. sh. drlg.
Amerada Pet., No. 1-20-B Ewing, NE Coalinga, Fres.	20-19-16	8,203	flow 3,200 b.d
Pure Oil, No. 44-30-B Schwinn, NE Coalinga, Fresno	30-19-16	7,792	br. sh. drlg.
Wilshire Oil, No. 62-30-B, NE Coalinga, Fresno	30-19-16	8,260	tested wet
Union Oil, No. 55-18 Cook, NE Coalinga, Fresno	18-19-16	6,576	sd. sh. drlg.
Bandini Pet., No. 71-30-B, NE Coalinga, Fresno	30-19-16	7,898	sd. sh. drlg.
Lytle, R. S., Agt., No. 33-7-F, SE Coalinga, Fresno	7-20-16	3,990	sd. sh. drlg.
Lytle, R. S., Agt., No. 68-18-F, SE Coalinga, Fresno	18-20-16	8,003	O.S. drlg.
Lytle, R. S., Agt., No. 77-18-F, SE Coalinga, Fresno	18-20-16	7,670	br. sh. drlg.
Lytle, R. S., Agt., No. 82-18-F, SE Coalinga, Fresno	18-20-16	6,995	br. sh. drlg.
Texas Co., No. 5 Exeter, SE Coalinga, Fresno	6-20-16	4,140	sd. sh. drlg.
Univ. Consd. Oil, No. 72-24-C, SE Coalinga, Fresno	24-20-15	7,281	sd. sh. drlg.
Standard Oil, No. 68-13-F fee, SE Coalinga, Fresno	13-20-15	7,080	sd. sh. drlg.
Standard Oil, No. 88-13-C fee, SE Coalinga, Fresno	13-20-15	7,397	sd. sh. drlg.
Standard Oil, No. 22-17-F fee, SE Coalinga, Fresno	17-20-16	7,585	sd. sh. drlg.
Standard Oil, No. 1-19-F fee, SE Coalinga, Fresno	19-20-16	7,630	br. sh. drlg.
Standard Oil, No. 51-19-F fee, SE Coalinga, Fresno	19-20-16	6,592	sd. sh. drlg.
Superior Oil, No. 5-B Cagle, SE Coalinga, Fresno	6-20-16	5,365	sd. sh. drlg.
Union Oil, No. 9 King, Kettleman N Dome, Fresno	29-21-17	10,200	fish D.P.
K. N. D. A., No. 322-18-J, Kettleman N Dome, Fresno	18-21-17	9,651	hd. sh. drlg.
K. N. D. A., No. 23-20-J, Kettleman N Dome, Fresno	20-21-17	8,091	O.S. drlg.
K. N. D. A., No. 36-20-J, Kettleman N Dome, Fresno	20-21-17	8,700	redrlg. 8,420
K. N. D. A., No. 58-18-Q, Kettleman N Dome, Kings	18-22-18	4,855	sd. sh. drlg.
K. N. D. A., No. 27-26-Q, Kettleman N Dome, Kings	26-22-18	6,181	br. sh. drlg.
K. N. D. A., No. 58-26-Q, Kettleman N Dome, Kings	26-22-18	7,440	hd. sh. drlg.
Standard Oil, No. 321-29-J, Kettleman N Dome, Fres.	29-21-17	10,490	cleaning out
Standard Oil, No. 334-29-J, Kettleman N Dome, Fres.	29-21-17	9,890	sd. sh. drlg.
Tide Water A. O., No. 1 West Slope, Pyramid H., Kgs.	20-24-18	2,051	P.B. 945
Tide Water A. O., No. 35-22 Daniel, Trico, Tulare	22-24-23	5,950	sd. sh. drlg.
Cal. Fuel Oil., No. 3 Alberta, Hausna, San Luis Obispo	5-32-13	2,660	sd. sh. drlg.
Superior Oil, No. 1 Tar Springs, Huasna, S. Luis Obis.	24-32-14	1,770	sd. sh. drlg.

OKLAHOMA

Week Ended June 8

NORTHERN OKLAHOMA

Beckham County

Fred Coogan's No. 1 Kinchen, SE SE SE Sec. 4-9-25w. Dolo. 3,260 ft.; T.D. 3,714 ft.; P.B. 3,698 ft.; B. 1 B.O. and 3 bbl. S.W.

Caddo County

Sinclair Prairie Oil Co.'s No. 1 Groman, SW NW NW Sec. 1-16-13w. Wlx. 9,179 ft.; sd. 10,074 ft.; cd. 10,871-75 ft.; N. S.; Arb. 10,922 ft.; T.D. 11,026 ft.; P.B. 9,370 ft.; C.O. at 6,600 ft.; W. 100 ft.; sd. 10,074 ft.; Arb. 10,922 ft.; T.D. 11,026 ft.; P.B. 2,450 ft.; to test.

Creek County

D. E. Demsey's No. 1 Marrs, NE NW SE Sec. 29-18-8. T.D. 1,062 ft.

Indo Oil Co.'s No. 1 Slick, NW NW NW Sec. 1-16-9. S.O. 1,145-78 ft.; T.D. in Dtchr. 2,919 ft.; H.F.O.

Dewey County

Magnolia Pet. Co.'s No. 1 Fiekes, C SW SW Sec. 31-18-14w. T.D. 9,475 ft.; ran tbg. to 6,463 ft. to cmt. cvgs.; 2,700 lb. P. while S.I.; set plg. 9,200 ft.; drld. out to 6,920 ft.; to run pipe.

Garfield County

Champlin Ref. Co.'s No. 1 Kunkel, C E½ SE NW Sec. 23-23-6w. Lytn. 5,048 ft.; cd. dry 5,057-72 ft.; drlg. 5,890 ft.

Hughes County

Morgan-Gulf Prod. Co.'s No. 1 Diamond, C E½ NW SE Sec. 33-9-9. Msnr. 3,910 ft.; Hntn. 3,912 ft.; 2nd Wlx. 4,255 ft.; T.D. 4,261 ft.; P.B. 3,550 ft.

Walker et al's No. 1 Hawthorne, SW SW SE Sec. 19-7-10. Drlg. 530 ft.

Kay County

Malarnee Oil Co.'s No. 1 Harris, C SW NE Sec. 14-25-1. Miss. 4,050 ft.; chat with S.O. 4,063-4,105 ft.; wtr. 4,433-40 ft., T.D.; P.B. 4,020 ft.

Kingfisher County

Olsen Drlg. Co.'s No. 1 Geis, C NE SW Sec. 15-18-9w; (O.W.D.D.). O.T.D. 8,507 ft.; T.D. 9,404 ft.; D.&A.

Phillips Pet. Co.'s No. 1 Grape, C NW SE Sec. 30-18-5w. Layton 5,600 ft.; O.S.W. 4,146 ft.; Miss. 6,670 ft.; T.D. 6,729 ft.

Kiowa County

Gene Burke's No. 1 Morgansen, NW NW SW Sec. 6-2-16w. T.D. 500 ft.; tstg.

Carter's No. 1 Hinton, SE SE SE Sec. 1-7-17w. T.D. 2,764 ft.; D.&A.

Hurst & Groth's No. 1 Groth, SW cor. Sec. 3-4-16w. Drlg. 325 ft.

C. H. Marshall's No. 1 Pottchin, NE NW NW Sec. 28-7-18w. S.D. 2,165 ft.

Southwestern Okla. O. & G. Co.'s No. 2 Foltz, NW SE SE Sec. 10-6-18w. T.D. 1,360 ft.; prep. to D.D.

Lincoln County

Anderson-Prichard's No. 1 Smith, SE SW NE Sec. 18-15-5. Hntn. 4,278 ft.; Vla. 4,417 ft.; Wlx. 4,480 ft. and 4,514 ft.; T.D. 4,530 ft.; P.B. 3,542 ft.

Fields & Nagle's No. 1 Alspaugh, SW SE NW Sec. 35-15-6. T.D. 3,171 ft.

Logan County

Eason Oil Co.'s No. 1 Wells, NE NW NE Sec. 15-16-2w. Drlg. 3,900 ft.

Keriyn Oil Co.'s No. 1 Cavanaugh, C W½ SW NW Sec. 1-15-4w. Miss. 6,105 ft.; T.D. 6,130 ft.

Keriyn Oil Co.'s No. 1 Chitwood, NE NE SW Sec. 15-16-4w. Dolo. 6,510 ft.; Wlx. 6,578 ft.; drlg. 6,651 ft.

McIntosh County

Phillips' No. 1 Blankenship, C SW NW Sec. 33-10-13. Hntn. 3,691 ft.; Vla. 3,806 ft.; T.D. 3,911 ft.; D.&A.

Muskogee County

R. Garrett's No. 1 Escoe, SW SW SE Sec. 16-13-17. S.D. 1,665 ft.; est. 2,000,000 cu. ft. gas.

Noble County

Helmerich & Payne's No. 1 Fireshaker, SE SE NE Sec. 11-24-3. Simp. 3,960 ft.; Wlx. 3,965 ft.; T.D. 3,974 ft.; W.O.C.

Okfuskee County

Burke-Greis' No. 1 Dew, NE NE NE Sec. 9-12-9. Fsg. 3,100 ft.

Osage County

Mid-Continent Pet. Corp.'s No. 1 Osage, NW NW NE Sec. 18-24-5. Drlg. 930 ft.

Payne County

Cities Service Oil Co.'s No. 1 Sinnett, SE SE SW Sec. 14-20-4. Prue 3,300 ft.; Bart. 3,490 ft.; T.D. 3,796 ft.

Comoll-Haskins' No. 1 Meyer, NW SE SE Sec. 17-17-6. T.D. 2,876 ft.

Devonian Oil Co.'s No. 1-A Scott, SE SE NE Sec. 19-18-5. Miss. 3,698 ft.; Wlx. 3,991 ft.; T.D. 4,041 ft.; D.&A.

Pontotoc County

Crescent Oil Co.'s No. 2 Thompson, NE NW SW Sec. 29-3-4. S.D. 671 ft.

Sandback et al's No. 1 Statler, NE cor. Sec. 26-5-6. T.D. 2,007 ft.; P.B. 1,903 ft.; D.S.T. 1,864 ft.; rec. 4,500,000 cu. ft. gas and 280 bbl. S.W.; R.U.S.T.

Pottawatomie County

J. F. Smith's No. 1-A McKnown, SE SW NW Sec. 25-8-4. Drlg. 4,003 ft.

Thompson Bros.' No. 1 L. Truesdale, SE SE NW Sec. 31-8-5. Earls. 3,486 ft.; drlg. 3,829 ft.

Seminole County

Murta et al's No. 1 Harber, C W½ NE SE Sec. 4-10-6. W.O.C. 4,243 ft.

Winona Oil Co.'s No. 1 Jackson, SW SE NE Sec. 18-7-8. Vla. 4,078 ft.; dnse. 4,120 ft.; dolo. 4,140 ft.; 1st Wlx. 4,189 ft.; T.D. 4,195 ft.; F. 360 B.O. in 24 hrs.

Washita County

Continental Oil Co.'s No. 1 School ld., C NE Sec. 16-8-16w. Gr. wsh. 3,005 ft.; drlg. 6,893 ft.

SOUTHERN OKLAHOMA

Atoka County

Kirksey's No. 1 Baskett, SW SE SE Sec. 7-3s-10e. Sdy. L. 470-80 ft.; S.O.; drlg. 700 ft.

Scrivner et al's No. 1 Plettner, NW NW NE Sec. 36-3s-13. S.D. 1,500 ft.

Thompson Bros.' No. 1 Richardson, NE SE SW Sec. 10-3s-9. Drlg. 890 ft.

Comanche County

W. I. Wynn's No. 1 Lowe, SE NW NW Sec. 7-1n-10w. Est. 15 B.O.P.D.; T.D. 256 ft.

Cotton County

Scott's No. 1 Masonic Home, NW NW SW Sec. 13-4s-13w. S.D. 1,850 ft.

Marshall County

Johnson et al's No. 1 Godfrey, SW SE NE Sec. 14-6s-6e. Vla. 2,627 ft.; S.S.O.; T.D. 5,528 ft.; S.D.O.

May Oil Corp.'s No. 1 Sacrea, SW NE SW Sec. 17-5-5. Sd. and S.G. 1,023-27 ft.; blk. sh. 1,033-37 ft.; gas sd. 1,120-ft.; est. 6,000,000 cu. ft. gas; T.D. 1,132 ft.; drld. plug and C.O. to bttm.; S.D.

Stephens County

Edwin Bristow's No. 1 Damron, SE NW SW Sec. 25-2s-6w. T.D. 1,545 ft.; P.B. 1,505 ft.; acdz.; rec. S.W.; S.D.

Tillman County

Gulf Oil Corp.'s No. 1 Owen, NE NE NE Sec. 27-4s-15w.T.D. 4,081 ft.

Kadane Bros.' No. 1 Andrews, NW cor. Sec. 35-2s-19w. Drlg. 2,460 ft.

Kirksey et al's No. 1 Garner, NE SW SE Sec. 24-1n-17w. S.D. 622 ft.; reprs.

KANSAS

Week Ended June 8 (Descriptions are East unless marked otherwise)

Barber County

Sinclair-Prairie Oil Co.'s No. 1 Binning, C S½ SE SW Sec. 26-32-13w. Drlg. 2,265 ft.

Barton County

Bartlett & Crum's No. 1 Hulme, C E½ SE NE Sec. 9-20-12w. Lans. 3,115 ft.; Arb. 3,435-45 ft., T.D.; D.&A.

C. L. Carlock's No. 1 Jenke, C W½ NW NW Sec. 7-18-11w. Lans. 3,127 ft.; Arb. 3,417-60 ft., T.D.; D.&A.

Champlin Ref. Co.'s No. 1 Fiege, CEL SE NW Sec. 22-20-11w. Lans. 3,070 ft.; Arb. 3,403-15 ft., T.D.; D.&A.

Gulf et al's No. 1 Sander, CNL SW SE Sec. 30-13-16w. W.O.C. 215 ft.

Butler County

J. H. Wagoner's No. 1-A Ramsey, SW NW SE Sec. 8-24-5. Pay 2,088-93 ft.; T.D. 2,096 ft.; P. 20 B.O.P.D.

Ralph Wixon's No. 3 Bolin, SE SW NE Sec. 1-27-6. Miss. 3,030 ft.; Simp. 3,072 ft.; H.F.W.; T.D. 3,105 ft.; D.&A.

Cowley County

Barwick & Sheridan's No. 1 Warren, C W½ NW NW Sec. 18-35-6. Drlg. 2,531 ft.

Foster Oil Co.'s No. 2 Howard, E½ SW SW Sec. 8-34-4. Drlg. 3,100 ft.

McKnab's No. 1 Lemert, CWL NW SE Sec. 11-34-4. Drlg. 1,790 ft.

McKnab's No. 1 Snyder, C W½ NW NW Sec. 15-34-3. Bart. 3,270-80 ft.; Miss. 3,291 ft.; H.F.W.

Markey & Mission's No. 1-A Hunt, SW SW NE Sec. 16-34-5. T.D. 1,756 ft.; killed gas; S.D. 2,600 ft.

I. W. Murfin's No. 1 Jarvis, N½ SW NE Sec. 19-31-5. Rng. csg. 1,710 ft.

E. B. Shawver's No. 1-B Widener, C S½ SE NW Sec. 11-30-4. Miss. 2,325-40 ft.; Arb. 3,226 ft.; 1½ B.O.P.H.; T.D. 3,245 ft.; inc. wtr.

Stewart et al's No. 1-A Ehmke, C W½ NW NW Sec. 14-32-3. T.D. 1,340 ft.

Dickinson County

Midland Oil Co.'s No. 1 Haines, SE SW SW Sec. 23-16-4. Drlg. 2,170 ft.

Ellis County

Gulf et al's No. 1 Sander, CWL SW SE Sec. 30-13-16w. Tpka. 2,940 ft.; T.D. 3,458 ft.; S. 5 B.O.P.H.

Ellsworth County

Aylward Prod. Co.'s No. 1 Haska, CEL SE SE Sec. 6-16-10w. Lans. 2,956 ft.; Arb. 3,273-75 ft.; T.D. 3,292 ft.; P. 23 B.O.P.H.; comp.

Emerich et al's No. 1 Hagy, C W½ SW NE Sec. 20-16-10w. Drlg. below 300 ft.

Finston et al's No. 1 Siemsen, C W½ NW SE Sec. 3-17-10w. Drlg. 1,755 ft.

Moore's No. 1 Little, C S½ SE NE Sec. 30-16-10w. Lans. 3,026 ft.; S.O. 3,054 ft.; drlg. 3,215 ft.

Sharon Drlg. Co.'s No. 1 Norotny, C N½ NW NE Sec. 32-16-10w. Arb. 3,292 ft.; S.O. 3,299 ft.; T.D. 3,318 ft.; P. 9 B.F. P.H.; D.&A.

Greenwood County

Ashlock et al's No. 2-A Lindemood, NE NW SW Sec. 7-25-13. Pay 1,613-20 ft., T.D.; S.D.

Johnson County

McCain et al's No. 1 Doan, CEL NW SE Sec. 34-12-22. S.D. 1,500 ft.

Kearny County

Stanolind O. & G. Co.'s No. 1 Judd, C SE SE Sec. 15-21-38w. Drlg. 2,580 ft.

Kingman County

Gaddis et al's No. 1-A Shannon, CEL SE SW Sec. 11-27-10w. Lans. 3,493 ft.; D.S.T. 4,013-48 ft.; rec. mud&sh.

McPherson County

Aladdin Pet. Co.'s No. 1 Bitikofer, CNL NE NW Sec. 1-20-1w. Lans. 2,315 ft.; Miss. 2,885 ft.; ga. 3,000,000 cu. ft. gas; F. 4 B.O.P.H.; C.O.

Bay Pet. Co.'s No. 1 Coons, C W½ SW SW Sec. 13-19-1w. Drlg. 1,200 ft.

Broadwater, Inc.'s No. 1 Heaton, C E½ SE SE Sec. 28-17-1w. Drlg. 660 ft.

H. & M. Drlg. Co.'s No. 1 Swenson, S½ SW NE Sec. 9-18-4w. Drlg. 3,000 ft.

Marion County

H. H. Royer's No. 1 Kroch, NE NE NW Sec. 28-18-4. O.T.D. 2,452 ft.; drlg. 2,488 ft.

Pawnee County

Magnolia's No. 1 Smith, CEL NE NE Sec. 12-21-16w. Drlg. 1,880 ft.

Reno County

Dutton et al's No. 1 Green, SE SE SE Sec. 8-23-4w. Lans. 2,622 ft.; fsg.

Rice County

C. L. Carlock's No. 1 Conrad, C W½ SW

NE Sec. 15-20-6w. Lans. 2,850 ft.; drld. plug; N.S.; S.D.
Clyde Pulse's No. 1 Baker, CSL SW SW Sec. 33-20-6w. Lans. 2,870 ft.; Miss. 3,424-31 ft., T.D.; R.U.S.T.

Rooks County

Cities Service Oil Co.'s No. 1 Hansen, SE SE NW Sec. 15-6-19w. Drlg. 3,285 ft.
Mitchell Drlg. Co.'s No. 1 Vererka, CSL SE SE Sec. 21-8-19w. Tpka. 2,783 ft: Lans. 3,174 ft.; S.S.O. 3,174 ft.; R.U.S.T.
Wakefield et al's No. 1 Diehle, C N½ NW NW Sec. 4-9-17w. U.R. 2,635 ft.

Russell County

Cities Service Oil Co.'s No. 1 Rochester, SE SE NE Sec. 11-13-15w. Lans. 2,953 ft.; S.O. 2,997-99 ft. and 3,252 ft.; cd. 3,253-58 ft., T.D.; rec. wtr.; D.&A.
Gussman's No. 1 Mudd, CWL NW NE Sec. 16-15-15w. Drlg. 310 ft.
Haynes et al's No. 1 Driscoll, CNL SE SW Sec. 30-15-11w. C.O. 2,365 ft.
Jones Bros.' No. 1 Mahoney, CSL SW SW Sec. 8-14-12w. Drlg. 750 ft.

MISSOURI

Adair County

Eddington-McAlpin's No. 1 Johnson-Capps, SW SW Sec. 31-64-15w. S.D. 930 ft.

DeKalb County

American O. & G. Co.'s No. 1 Thompson, SW SW Sec. 30-58n-31w. T.D. 250 ft.
E. H. Lawhon's No. 1 Gottschall, C SE SE Sec. 18-59-32w. T.D. 700 ft.; waiting on heavier rig.

Holt County

Brin & Nathan's No. 1 Decker, C NW NW Sec. 1-61-38w. U.R. 1,678 ft.

Knox County

H. A. Black's No. 1 Champ, SW SW Sec. 21-62-10w. R.U.
Harris & Holmes' No. 1 Newkirk, NE NE Sec. 11-61-11w. Drlg. 60 ft.

Livingston County

Chillicothe Syndicate's No. 1 Linton, C W½ SE Sec. 15-56-25w. Drlg. 770 ft.

Lewis County

F. W. Miller's No. 1 Hatfield, SW NW Sec. 34-60-7e. Spudded.

Macon County

Ray Dorris' No. 1 Jones, NW NW Sec. 16-58-17w. Loc.

Mercer County

Geo. Moore's No. 1 Moss, NW SW SE Sec. 30-65n-24w. T.D. 2,330 ft. in Arb.; D.&A.

Platte County

Roach-Vincent et al's No. 1 Dillingham, C NE SW Sec. 16-53-34w. Miss. 1,063-1,445 ft.; Hntn. 1,475 ft.

Schuyler County

T. E. Baldwin's No. 2 Johnson, SW NE NE Sec. 21-65-15w. Drlg. 2,114 ft.

ARIZONA

Maricopa County

Sam F. Reaves' No. 1 King, SW SE Sec. 33-1n-4w. Set csg. 1,800 ft.; pipe stk.
Peoples O. & G. Co.'s No. 1 Gardner, SE Sec. 2-1n-3e. S.D. 1,180 ft.

NEBRASKA

Richardson County

Forest City Basin Synd.'s No. 1 Windle, SE NE SE Sec. 3-1n-15e. R.U.
Pawnee Royalty Co.'s No. 1 Boice, CSL N½ NE NE Sec. 18-1n-16e. O.W.D.D.; Vla. 2,911 ft.; Arbuckle 3,268-3,300 ft.; T.D.; plugged back to Hunton lime at 2,279-87 ft. P.B. 2,286 ft.; S.D.
Pawnee Royalty Co.'s No. 1 Bucholz, C NW SW Sec. 17-1n-16e. T.D. 2,232 ft. in Hunton; flowing an average of 330 B.O. daily.
Uhri Oil Co.'s No. 1 Ogle, NE NW SE Sec. 9-1n-14e. S.D. 728 ft.

ARKANSAS

Clark County

Coker Oil Corp.'s No. 4 H. H. and H. C. Cabe, 100 ft. E of No. 2, Sec. 5-10s-21w. Set 8¼-in. csg. 20 ft.; reported S.O. 283-87 ft.; S.D.; W.O.; T.D. 480 ft.

Columbia County

Barnsdall Oil Co.'s No. 1 El Dorado & Wesson R. R. Co., C NW SW Sec. 5-19-18. Set 10¾-in. csg. 2,525 ft.; drlg. rd.&gr. sh. 6,030 ft.
Mid-Continent Pet. Corp.'s No. 1 J. Keith, C SW NW Sec. 16-18-22. Set 16-in. csg. 397 ft.; set 9⅝-in. csg. 4,144 ft., drlg. 4,990 ft.
Placid Oil Co.'s No. 1-B J. W. Booth, C SE SE Sec. 19-17-19. Set 13⅜-in. csg. 135 ft.; drlg. 700 ft.
Southwood Oil Co.'s No. 2 H. C. Couch, C S½ SW SW and S½ SE SW Sec. 23-17-20. Drlg. rd. sdy. sh. 7,195 ft.
Standard Oil Co. of La.'s No. 1 Merritt et al unit, Sec. 16-17-20. Set 13⅜-in. csg. 224 ft.; W.O.C.
Tide Water Asso. Oil Co. and Seaboard Oil Co.'s No. 2 C. H. Murphy et al, C SE NE Sec. 14-18-19. Set 9⅝-in. csg. 2,500 ft.; cd. 8,169-77 ft.; hd. dnse. gr. ool. L.; set 5½-in. csg. 8,177 ft.
Tide Water Asso. Oil Co. and Seaboard Oil Co.'s No. 1 Talley, C SE NW Sec. 14-18-19. Set 9⅝-in. csg. 2,487 ft.; drlg. rd. sdy. sh. 8,029 ft.
G. H. Vaughn's No. 1 J. M. Talley, C N½ N½ SE Sec. 15-18-19. Set 5½-in. csg. 8,220 ft.

Dallas County

H. H. McBride et al's No. 1 Southern Kraft Corp., C SE SW Sec. 16-2-16. R.U.

Faulkner County

Cato Oil Co., Inc.'s No. 1 R. R. Harrell, 330 ft. SE cor. SE SW Sec. 35-4n-12w. T.D. 2,438 ft.; U.R. csg. and set 7-in. csg. 2,370 ft.; drlg. L.&sh. 2,753 ft.

Howard County

Miller & Fletcher's No. 1 Dierks Lbr. Co., C SW SW Sec. 7-8s-28w. Drlg. 113 ft.

Lafayette County

Atlantic Ref. Co.'s No. 1 Bodcaw Lbr. Co., Sec. 29-17-23. Set 16-in. csg. 341 ft.; set 9⅝-in. 4,222 ft.; cd. 7,308-16 ft.; S.O.; T. Bknr. 8,895 ft.; T. Smkvr. 9,039 ft.; cd. hd. dolo.&dnse.&por. ool. L. 9,041-57 ft.; slight gas odor and ether cut; cd. hd. gr. ool. L. with por. strks. 9,057-77 ft.; Schlumb. T. Cttn. Vlly. 6,753 ft.: T. Bknr. 8,900 ft.; T. Smkvr. L. 9,028 ft.; T. por. sec. 9,097 ft.; gas-oil contact 9,122 ft.; oil-wtr. contact 9,204 ft.; set 5½-in. csg. 9,221 ft.; perforating.
East Texas Ref. Co. et al's No. 2 E. P. Davis, 525 ft. N, 660 ft. W, SE cor. NW NE Sec. 19-16-23. Set 5½-in. csg. 3,399 ft.; T.D. 3,480 ft.; acd. and W.O. S.R.
J. & J. Oil Co.'s No. 1 J. E. Barnes, 345 ft. W, 615 ft. N, SE cor. Sec. 4-16-24. Set 10¾-in. csg. 218 ft.; T.D. 2,250 ft.; S.D.; wtr. sd.

Lonoke County

Lunnon Howell & Ford's No. 1 City of Cabot, C NE Lot 1, Blk. 6, Sec. 18-4n-9w. Set 4½-in. csg. 878 ft.; drlg. sdy. L. 1,235 ft.
J. F. Russell's No. 1 J. T. Gunter, 440 ft. N, 577 ft. W, SE cor. Sec. 17-5n-10w. Drld. sd. S.S.O. 2,231-45 ft.; S.D. 2,312 ft.; drlg. sh.&L. 2,358 ft.

Miller County

K. E. Jennings and J. J. Oil Co.'s No. 1 H. T. Wood, 520 ft. S, 255 ft. W, NE cor. Sec. 33-18-28. T.D. 4,547 ft.; S.D.; W.O.
Standard Oil Co. of La.'s No. 1 W. P. Sturgis, 660 ft. S and W, C Sec. 1-17-27. Set 9⅝-in. csg. 2,497 ft.; T. Bknr. 8,948 ft.; T. Smkvr. L. 9,306 ft.; T.D. 9,550 ft.; P.B. and set 7-in. csg. 4,012 ft.; perf. 3,850-54 ft. and flwd. 10 B. P.H. S.W.; swbd.; no show oil or gas; set retainer 3,786 ft. and sqzd.; reperf. 3,576-3,606 ft.; flwd. 21 B.F.P.H., 30% wash wtr.

Ouachita County

Sam Richardson & Co., Inc.'s No. 10 J. Goodwin, 200 ft. N, 330 ft. W, SE cor. NE SW Sec. 32-15-15. Ran elec. sur. 4,320 ft.; set 7-in. csg. 2,717 ft.; W.O.C.

Saline County

A. W. Givens' No. 1 Williams, 375 ft. S, 420 ft. E, NW cor. NE NE Sec. 18-3s-15w. Set 6-in. csg. 500 ft.; T.D. 550 ft.; rmg. to bttm.
Tedford Drlg. Co. et al's No. 1 Cunningham, C SW NE Sec. 31-3s-15w. Set 12½-in. 75 ft.; T.D. 200 ft.; W.O.C.

Sevier County

Gramp Oil Co.'s No. 1 Floyd Phillips, 330 ft. NW cor. NW Sec. 35-9s-30w. R.U.
R. A. McArthur's No. 1 Bell est., 20 ft. SE cor. SE SW Sec. 29-9s-32w. S.D. 785 ft.

Union County

Berg & Laney's No. 1 Cutrer, 150 ft. N, 660 ft. W, SE cor. NW SW Sec. 21-17-14. Cd. 2,727-28 ft.; rec. 7-in. por. sd.; cd. 2,728-35 ft.; rec. 7½ ft. soft por. sd., salty taste; drlg. by fish 350 ft.; T.D. 3,370 ft.; set 5⅛-in. csg. 2,771 ft.; perf. 2,702-05 ft.; bailed down 1,000 ft. and tstd. S.W.; recmtd. perf. 2,601-03 ft. and reperf. 2,572-74 ft.; T.D. 2,575 ft.; fsg.
J. H. Coker and J. P. Grieves et al's No. 1 C. L. Smith, 330 ft. SW cor. NE NW Sec. 32-17-14. Set 10¾-in. csg. 225 ft.; T.D. 3,483 ft.; fsg.
Fohs Oil Co.'s No. 1-A Grace, 660 ft. N, 330 ft. W, SE cor. SW SE Sec. 31-17-14. T. sd. 3,436 ft.; T.D. 3,766 ft.; set 7-in. csg. 3,766 ft.; perf. 3,687-92 ft. and swbd. 2 B.P.H., 50% oil; arng. reperf.
Marine Oil Co.'s No. 5-B W. B. Thompson, 250 ft. S, 200 ft. W, NE cor. SE SW Sec. 3-18-13. Set 10-in. csg. 140 ft.; Set 7-in. csg. 3,538 ft.; T.D. 3,573 ft.; W.O.S.R.
Marine Oil Co.'s No. 6-B Thompson, 350 ft. N, 200 ft. W, SE cor. SE SW Sec. 3-18-13. R.U.
Phillips Pet. Co.'s No. 1 C. H. Murphy, 165 ft. S, 10 ft. E, NW cor. S½ Lot 2, NW Sec. 19-18-17. Set 9⅝-in. csg. 1,878 ft.; drlg. rd.&gr. sh. 5,815 ft.
Standard Oil Co. of La.'s No. 1 D. A. Zimmerman, 660 ft. SE cor. SE SE Sec. 29-18s-16w. Set 13⅜-in. csg. 227 ft.; drlg. hd. sh.&shls. 1,950 ft.

Yell County

Edward C. Harvey's No. 1 fee unknown, SE cor. SE NE Sec. 30-3n-25w. R.U.; spd.; S.D. titles.

LOUISIANA

NORTH LOUISIANA

Bienville Parish

Ark. La. Gas Co.'s No. 1 Wimberly, 661 ft. N, 50 ft. W, C Sec. 15-16-10. Set 9⅝-in. csg. 1,252 ft.; T. por. Pett. L. 5,122 ft.; T.D. 5,226 ft.; ran elec. log.

Bossier Parish

R. L. Reese et al's No. 1 Bellevue Ld. Co., 170 ft. E, 365 ft. N, C Sec. 27-20-11. Set 10-in. csg. 100 ft.; fsg. for jnk. 295 ft.

Caddo Parish

W. F. Bridewell's No. 1 Stiles, Sec. 21-21-16. R.U.
C. J. Brown's No. 3 Muslow, Sec. 5-20-15. Set 10-in. csg. 60 ft.; set 6⅝-in. csg. 1,410 ft.; T.D. 1,554 ft.; acd.
C. J. Brown's No. 4 Muslow, Sec. 31-21-15. R.U.
H. B. Burden's No. 1 Fouche, Sec. 1-20-16. R.U.
D. T. Cauble's No. 1 Darnell, Sec. 17-22-16. Set 10-in. csg. 80 ft.; sd. 3,002-10 ft. and 3,012-52 ft.; S.O.; T.D. 3,204 ft.; set 5⅛-in. csg.; perf. 3,086-92 ft.; tstd. dry; perf. 3,085-90 ft.; tstd. dry; shot csg. with 9 qts. nitroglycerin and tstd. S.W.; W.O.
Chastain & Meier's No. 1 Crystal fee, Sec. 24-21-16. R.U.
Cooper Oil Co.'s No. 2 Stiles, Sec. 33-20-16. Set 6-in. csg. 1,568 ft.; tstg. 1,661 ft.
Davidson & Brown's No. 1 Wells, Sec. 10-21-15. Set 8-in. csg. 1,597 ft.; acd. with 4,000 gal.; pmpd.; S.O. 1,789 ft.; T.D. 3,000 ft.; set 5½-in. csg.; acd. with 3,000 gal.; tstd. S.W.; S.O.; pld. csg. and P.B. 2,006 ft.; tstd. S.W.; P.B. 1,875 ft. and tstd. S.W.; pmpg. S.W.
A. L. Farr's No. 1 Muslow, Sec. 31-21-15. Drlg. sd. 275 ft.
Claud Ferguson's No. 1 Dickson, Sec. 3-20-15. Set 10-in. csg. 40 ft.; cg. 1,483 ft.
Four Star Oil Co.'s No. 2 Muslow, Sec. 5-20-15. Set 6⅝-in. csg. 1,375 ft.; W.O.C.
L. Halbfass' No. 1-B Knight Oil & Ld. Co. Sec. 1-21-16. Set 10-in. csg. 60 ft.; drlg. 1,360 ft.
F. G. Holcomb's No. 1 Sims, Sec. 3-20-16. Set 10-in. csg. 75 ft.
P. N. McCullough's No. 1 Rudderdorf, Sec. 11-20-16. Set 5⅛-in. csg. 1,406 ft. acd. 4,000 gal.; tstd. S.W.; S.O.; S.D. W.O. 1,609 ft.
McDonald & Campbell's No. 15 Youree, Sec. 13-20-15. Set 6⅝-in. csg. 2,264 ft.; T.D. 2,270 ft.; W.O.S.R.
Magnolia Pet. Co.'s No. 22 Doan-Thigpen, Sec. 6-20-15. R.U.
R. Manziel's No. 3-B Muslow, Sec. 6-20-15. Set 7-in. csg. 1,343 ft.; T.D. 1,511 ft.; W.O.C.
Marion Oil Co.'s No. 7 Hart, Sec. 22-21-16. Set 10-in. csg. 40 ft.; set 6⅝-in. csg. 1,021 ft.; W.O.S.R. 1,027 ft.
G. H. Neighbors' No. 1 Richardson, Sec. 36-21-16. R.U.
Oil & Gas, Inc.'s No. 3 Stiles, Sec. 28-21-16. Set 10-in. csg. 84 ft.; W.O.C.
Providence Oil Co.'s No. 6 Bostwick, Sec. 13-22-16. Set 7-in. csg. 2,624 ft.
Skibro Co.'s No. 1 Shreveport Pet. Co., Sec. 2-20-16. Drlg. sh.&sd. 1,000 ft.
Stanolind O. & G. Co.'s No. 2 Dorian, Sec. 18-21-15. Set 5½-in. csg. 1,535 ft.; acd. 1,700 ft.; W.O.S.R.
Stanolind O. & G. Co.'s No. 1 R. T. Glassell, Sec. 25-21-15. Set 5½-in. csg. 1,421 ft.; T.D. 1,590 ft.; W.O.C.
E. A. Stiller's No. 3 Stiles, Sec. 28-21-16. Drlg. sh. 1,023 ft.
L. L. Sugar's No. 1-A Sample, Sec. 31-21-15. Set 10-in. csg. 60 ft.; T.D. 350 ft.; rep. rig.
Jack Terrell's No. 1 Welch, Sec. 3-20-16. Set 4½-in. csg. 1,434 ft.; T.D. 1,540 ft. acd. 4,000 gal.; tstd. S.O. and S.W.
Texas Co.'s No. 10 J. F. Herndon, Sec. 14-21-15. Set 6⅝-in. csg. 1,484 ft.; acd. with 4,000 gal.; pmpg. S.W.; S.O. 1,672 ft.; recmtd. csg. 1,484 ft.
Texas Co.'s No. 1 La. Co. fee, Sec. 1-20-16. T.D. 1,672 ft.; tstd. S.W. 1,473 ft.; set short string 5-in. csg. 1,508 ft.; tstd. S.W.; S.O.; T.D. 1,672 ft.
Tiger O. & G. Co.'s No. 1-B Crystal fee, Sec. 24-21-16. R.U.
Sloan Wells' No. 2 Stiles, Sec. 32-21-16. Set 10-in. csg. 40 ft.; drlg. sh. 1,791 ft.

Catahoula Parish

Continental Oil Co.'s No. 1 Tensas, C N½ SW SW Sec. 12-9-7e. Set 10¾-in. csg. 1,120 ft.; drlg. L.&sh. 8,321 ft.

Claiborne Parish

Ohio Oil Co.'s No. 15 G. W. Taylor Acct. 1, 100 ft. S and W, C SE Sec. 15-23-8. Set 13⅜-in. csg. 980 ft.; T. James L. 4,789 ft.; cd. L., S.W. 4,789-4,811 ft.; T. Pett. L. 5,206 ft.; D.S.T. 5,208-31 ft.; ⅝-in. cks. T.&B.; tool open 28 min.; no W.P.; rec. 3½ jts. mud cut with oil; cg. 5,394 ft.

De Soto Parish

Foster & Smith's No. 1 McRae, 800 ft. S, 550 ft. W, C Sec. 5-12-16. Set 10-in. csg. 60 ft.; W.O.C.

Franklin Parish

J. B. White et al's No. 1 Dailey., 1,170 ft. N, 2,490 ft. W, SE cor. Sec. 1-11-6e. R.U.

Grant Parish

C. M. Bowers' No. 1 Goodpine Oil Co., C SE SE Sec. 13-9n-1w. T. Wlx. 1,622 ft.; S.W. sd. 1,626 ft.; S.D.; W.O.

La Salle Parish

O. K. Allen, Jr., et al's No. 1 Breedlove, C SW NE Sec. 32-11-3e. Set 10¾-in. csg. 100 ft.; T. Wlx. 1,600 ft.; T.D. 1,660 ft., S.D.; perf. 2,232-38 ft.; tstd. 13 B.F.P.H.; ¼-in. ck.; 25% S.W.; cg. 2,195 ft.
Ark. Fuel Oil Co.'s No. 2-A Goodpine, 608 ft. N, 667 ft. W, SE cor. SW Sec. 7-20-3e. Drlg. sh. 2,167 ft.
Coon & Ezell's No. 1 Herring, 300 ft. W, 150 ft. S, NE SE SW Sec. 1-8n-3e. T.D. 2,335 ft.; perf. 2,212-16 ft. and 2,228-32 ft.
H. C. Cummings' No. 1 Urania, C NW NE Sec. 2-10-2e. R.U.
La Salle, Asso., Inc.'s No. 1 fee, 205 ft. N, 30 ft. W, SE cor. SW SW Sec. 19-10-2e. Set 12-in. csg. 101 ft.; S.D. 1,210 ft.
E. F. Neely's No. 1 Lizendy, 330 ft. NW cor. NE NE Sec. 19-10-3. T. Wlx. 1,600 ft.; br. sh. 2,227-41 ft.; cd. oil sd.; T.D. 2,380 ft.; set 5-in. csg. 2,368 ft.; perf. 2,272-32 ft. and tstd. S.W.; S.S.O.&G.; sanded up and W.O.
Placid Oil Co.'s No. 4 Goodpine, C NE NW Sec. 18-20-3e. O.T.D. 2,242 ft.; set 7-in. csg. 2,435 ft.; Schimb.; T. Wlx. 1,630 ft.; oil sds. 2,234-50 ft., 2,258-66 ft., and 2,275-91 ft.; perf. 2,258-62 ft.; swbd. oil and S.W.; sqzd.; perf. csg. 2,234-40 ft.; tstd. small amt. oil and S.W.; reperf. 2,235-40 ft. and 2,240-46 ft.; installing flow valves and tstg. 1,200 ft. F.I.H.; 50% S.W.
Placid Oil Co.'s No. 6 Goodpine, C NE SW Sec. 18-10-3e. R.U.
Placid Oil Co.'s No. 17 La. Central, C NW SE Sec. 19-11-3e. T. Wlx. 1,590 ft.; cd. 2,200-2,410 ft.; all sds.; S.W.; drlg. 2,610 ft.
Placid Oil Co.'s No. 18 La. Central, C SW NW Sec. 36-10-2e. Set 10-in. csg. 106 ft.; T. Wlx. 1,580 ft.; cd. 2,212-45 ft., sd.&sh.; cg. 2,247 ft.
Fred Stovall, Tr.'s No. 1 Russell, 200 ft. NW cor. SE SE Sec. 25-10-1e. Set 10-in. csg. 60 ft.; W.O.C.
G. W. Ziegen's No. 17 La. Central, C NW NE Sec. 36-11-2e. Set 10-in. csg. 100 ft.

Madison Parish

H. L. Hunt's No. 1 Ayers Tmbr. Co., C NW SW Sec. 18-15-10. Set 10¾-in. csg. 268 ft.; drlg. sdy. sh. 1,875 ft.

Morehouse Parish

Southern Carbon Co.'s No. 30 Tensas, Sec. 2-21-4e. Set 6-in. csg. 2,230 ft.; W.O.C.

Red River Parish

J. E. Parham's No. 1 Haynes, 2,192 ft. N, 1,000 ft. E, SW cor. Sec. 20-13-10. 10-in. csg. 135 ft.; set 6-in. csg. 1,060 ft.; T.D. 1,428 ft.; acd. with 1,500 gal.; tstg.

Sabine Parish

Geo. L. Pace's No. 5 Logan Oil Co., 330 ft. SW cor. SW NW Sec. 26-10-13. Set 7-in. csg. 1,925 ft.; W.O.S.R.; T.D. 1,970 ft.
Roy Raines' No. 1 Carter, NW NW Sec. 27-9-11. T.D. 1,820 ft.; S.D.
Sutton Zwolle Oil Co.'s No. 3 Sabine, 1,650 ft. S, 660 ft. E, NW cor. NE Sec 23-7-14. S.G. 3,538-60 ft.; jnkd. hole 3,560 ft.; W.O.

Union Parish

Interstate Nat. Gas Co.'s No. 97 fee, Sec. 2-21-3. Set 8-in. csg. 790 ft.; set 6-in. csg. 2,129 ft.; W.O.C.
Memphis Nat. Gas Co.'s No. 2 Potts, Sec. 19-21-3e. Set 8-in. csg. 768 ft.; drlg. sh. 1,500 ft.

Webster Parish

Hunt Oil Co.'s No. 2 Scott, 1,980 ft. N, 50 ft. E, SW cor. Sec. 20-21-9. Set 13⅜-in. csg. 610 ft.; drlg. sh.&L. 4,625 ft.
Hunt Oil Co.'s No. 6 E. L. Stewart, 200 ft. NW C NE SE Sec. 30-21-10. Set 9⅝-in. csg. 5,606 ft.; drlg. sdy. sh. 7,198 ft.
Midstates Oil Corp.'s No. 1 Giddens unit, 262 ft. N and W. C SW NE Sec. 30-21-9. Set 13⅜-in. csg. 667 ft.; W.O.C.

SOUTH LOUISIANA FIELDS

Anse La Butte—St. Martin Parish

Glassell & Glassell's No. 1 Tortoris, Sec. 122-9s-5e. R.U.

Stanolind O. & G. Co.'s No. 1 Bergeron, Sec. 121-9s-5e. R.U.

Bancroft—Beauregard Parish

Republic Prod. Co.'s No. 18 Columbia, Sec. 15-6s-13w. Loc.

Republic Prod. Co.'s No. 11 Lutcher Moore, Sec. 11-6s-13w. T.D. 7,525 ft.; perf. csg. 7,480-90 ft.; flwg. 50 B.P.D.; ¼-in. ck.

Barataria—Jefferson Parish

California Oil Co.'s No. 1 La. Truck & Orange Co., Sec. 15-15s-23e. 10¾-in. csg. 2,011 ft.; S.D. 3,285 ft.

California Oil Co.'s No. 1 Danciger-State, Sec. 2-16s-23e. Loc.

Carter, Perrin & Brian's No. 1 Penniman-Westerfeldt, Sec. 15-15s-23e. R.U.

Carter, Perrin & Brian's No. 2 Ruttley-Wiseman, Sec. 2-16s-23e. R.U.

Geo. Conover's No. 1 Conover Community, Sec. 22-15s-23e. Loc.

Fohs Oil Co.'s No. 1 Conzelman, Sec. 22-15s-23e. Loc.

Baton Rouge—East Baton Rouge Parish

Wm. Helis' No. 6-A L.S.U., Sec. 67-7s-1w. T.D. 6,493 ft.; 7-in. csg. 6,484 ft.; I.P. 200 B.P.D.; 11/64-in. ck.

Wm. Helis' No. 9 Nelson, Sec. 36-7s-1w. Loc.

Sugarfield Oil Co.'s No. 2 Reinken, Sec 46-7s-1e. T.D. 6,805 ft.; 7-in. csg. 6,760 ft.; I.P. 270 B.P.D.; 10/64-in. ck.

Bayou Blue—Iberville Parish

T. G. Markley and Crosby Drlg. Co.'s No. 2 Baiste, Sec. 74-9s-10e. Drlg. sh. 3,006 ft.

Superior Oil Co.'s No. 1 E. B. Schwing, Sec. 73-9s-10e. T.D. 8,362 ft.; P.B.: sdtrkd.; drlg. sdy. sh. 5,732 ft.

Superior Oil Co.'s No. 3 Schwing Lbr. Co., Sec. 74-9s-10e. Drk.

Bayou Choctaw—Iberville Parish

Standard Oil Co. of La.'s No. 2 Cypress, Sec. 28-8s-11e. 10¾-in. csg. 2,250 ft. T.D. 8,609 ft.; P.B.; sdtrkd.; drlg. sh. &L. 8,144 ft.

Bayou des Glaise—Iberville Parish

Humble O. & R. Co.'s No. 3-B Wilberts & Sons, Sec. 78-8s-8e. R.U.

Bayou Pigeon—Iberia Parish

Amerada Pet. Corp.'s No. 1 State, Sec. 24-12s-10e. Loc.

Plymouth Oil Co.'s No. 1 Leblanc, Sec. 13-12s-10e. R.U.

Bayou des Allemands—La Fourche Parish

Amerada Pet. Corp.'s No. 4 Gheens Realty, Sec. 56-15s-20e. Drlg. sh.&L. 7,626 ft.

Delta Farms—La Fourche Parish

Tide Water Asso. Oil Co.'s No. 2 Delta Farms, Inc., Sec. 1-17s-22e. Dredge can.

Bay St. Elaine—Terrebonne Parish

Jefferson Lake Sulphur Co.'s No. 1 Salt Dome Royalties, Sec. 8-22s-18e. R.U.

Caillou Island—Terrebonne Parish

Texas Co.'s No. 13 State, Sec. 20-23s-20e. Drlg. sh.&L. 5,481 ft.

Texas Co.'s No. 68 State, Sec. 17-23s-20e. T.D. 6,745 ft.; sdtrkd.; drlg. sd. 4,320 ft.

Cameron Meadows—Cameron Parish

Magnolia Pet. Co.'s No. 28 Cameron Meadows, Sec. 21-14s-13w. Rec. 4,000 ft. oil; D.S.T. 5,585-5,610 ft.; T.D. 6,263 ft.; 7-in. csg. on bttm.

Chacahoula—La Fourche Parish

Sun Oil Co.'s No. 2 Cypress, Sec. 75-15s-15e. 13⅜-in. csg. 1,815 ft.; drlg. sh. &L. 6,817 ft.

Sun Oil Co.'s No. 8 Dibert, Stark & Brown Cypress Co., Sec. 70-15s-15e. 10¾-in. csg. 1,831 ft.; T.D. 5,806 ft.; sdtrkd.; drlg. sh. 5,736 ft.

Chalkley Field—Cameron Parish

Humble O. & R. Co.'s No. 9 Hanzen, Sec. 9-12s-6w. T.D. 8,805 ft.; P.B.; sdtrkd.; drlg. sh. 7,739 ft.

Shell Oil Co., Inc.'s No. 1 Coastal Club. T.D. 10,184 ft.; 5½-in. csg. 10,100 ft.; flwg. gas and dist.

Cheneyville—Rapides Parish

Amerada Pet. Corp.'s No. 10 Well, Sec. 53-1s-2e. Drlg. sh. 5,550 ft.

S. W. Richardson's No. 13 Well, Sec. 55-1s-2e. Drlg. sdy. sh. 7,379 ft.

Darrow—Ascension Parish

Humble O. & R. Co.'s No. 3-B Community, Sec. 30-10s-2e. T.D. 9,335 ft.; well tried to blow out; stk. D.P.

Kiva Oil Co.'s No. 1 Duplessis, Sec. 40 10¾-in. csg. 1,751 ft.; T.D. 6,870 ft.; 7-in. csg. 6,886 ft.

Dog Lake—Terrebonne Parish

Texas Co.'s No. 11 State, Sec. 32-21s-16e. 10¾-in. csg. 1,751 ft.; T.D. 6,870 ft.; 7-in. csg. 6,886 ft.

Texas Co.'s No. 24 State, Sec. 5-22s-16e. Loc.

Edgerly—Calcasieu Parish

Emerson Oil Corp.'s No. 3 Stanolind fee Sec. 28-9s-11w. Drlg. sd.&sh. 3,660 ft.

Eola—Avoyelles Parish

Amerada Pet. Corp.'s No. 4 Sam Cerami Sec. 6-2s-3e. T.D. 8,573 ft.; perf. csg. 8,560-70 ft.; I.P. 233 bbl. in 9 hrs.; ¾-in. ck.

Amerada Pet. Corp.'s No. 1 Dent-Howell, Sec. 1-2s-2e. Bldg. rd.

Amerada Pet. Corp.'s No. 9 Glaze, Sec. 6-2s-3e. R.U.

Amerada Pet. Corp.'s No. 4 Irion, Sec. 7-2s-3e. T.D. 8,583 ft.; abd.

Amerada Pet. Corp.'s No. 1 Martin, Sec. 1-2s-2e. T.D. 8,570 ft.; tstg.

Amerada Pet. Corp.'s No. 1 Turbe, Sec. 45-1s-2e. T.D. 8,570 ft.; I.P. 230 bbl. in 9 hrs.; ¼-in. ck.

Harry Bass et al's No. 2 Richie, Drlg. sh. 8,389 ft.

Gulf Ref. Co.'s No. 4 Moullere, Sec. 1-2s-2e. Drlg. sh. 2,467 ft.

Lester A. Lemoine's No. 1 fee, Sec. 41-1s-3e. Loc.

Geo. Lilly's No. 2 Dent, Sec. 1-2s-2e. Drlg. sd.&sh. 2,936 ft.

S. W. Richardson's No. 1-B Haas Inv. Co., Sec. 42-1s-2e. Drlg. sh. 8,895 ft.

Erath—Vermilion Parish

Strake Pet. Co., Inc.'s No. 1 V. L. Caldwell, Sec. 41-13s-4e. Drlg. sh. 10,315 ft.

Texas Co.'s No. 1 Trahan, Sec. 22-13s-4e. 11¾-in. csg. 2,085 ft.; drlg. sdy. sh. 5,670 ft.

Fausse Point—Iberia Parish

Sun Oil Co.'s No. 2 Cling & Walet, Sec. 26-11s-8e. Drlg. 1,210 ft.

Sun Oil Co.'s No. 2 Planters Lbr. Co., Sec. 27-11s-8e. 10¾-in. csg. 1,436 ft. drlg. sh.&L. 6,430 ft.

Texas Co.'s No. 7 State, Sec. 35-11s-8e. T. salt 7,001 ft.; T.D. 7,005 ft.; P.B.; sdtrkd.; drlg. sdy. L. 6,396 ft.

Four Isle—Terrebonne Parish

La. Ld. & Expl. Co.'s No. 1 State-Four Isle, Sec. 23-21s-16e. Loc.

Garden Island—Plaquemines Parish

Texas Co.'s No. 45 State, Sec. 38-23s-33e. Drlg. sd., sh.&L. 4,815 ft.

Gillis—Calcasieu Parish

Union Sulphur Co.'s No. 9 Kaufman, Sec 7-9s-7w. T.D. 7,149 ft.; P.B.; sdtrkd.; T.D. 7,488 ft.; perf. csg. 7,006-16 ft.; I.P. 250 B.P.D.; 11/64-in. ck.

Union Sulphur Co.'s No. 3 McIver, Sec. 14-9s-8w. Loc.

Golden Meadow—La Fourche Parish

Bennett O. & R. Co.'s No. 2 Authement, Sec. 12-19s-22e. T.D. 7,855 ft.; fsg.

Bennett O. & R. Co.'s No. 1 Guilbeau, Sec. 2-19s-22e. T.D. 5,089 ft.; 5½-in. csg. 5,071 ft.; I.P. 121 B.F.P.D., 5% S.W.; 10/64-in. ck.

Bennett O. & R. Co.'s No. 2 Guilbeau, Sec. 2-19s-22e. Drk.

Berkshire Oil Co.'s No. 1 Nicol, Sec. 9-19s-22e. 10¾-in. csg. 2,362 ft.; T.D. 10,078 ft.; 7-in. csg. 9,207 ft.

Gulf Ref. Co.'s No. 1-A Allen Ld. Co., Sec. 5-20s-22e. Drlg. sh. 1,130 ft.

Temple Hargrove's No. 5 Gaspard, Sec. 9-19s-22e. T.D. 5,540 ft.; 5½-in. csg. 5,490 ft.; perf. csg. 5,151-74 ft.

Jim McMurray Prod. Co.'s No. 1 Orgeron, Sec. 12-19s-22e. T.D. 5,492 ft.; 5½-in. csg. 5,487 ft.

M. H. Marr et al's No. 2 B. & D. unit, Sec. 17-19s-22e. Road comp.

M. H. Marr et al's No. 3 B.&D. unit, Sec. 12-19s-22e. 10¾-in. csg. 2,580 ft.; drlg. sdy. sh. 7,163 ft.

Martex Oil Corp.'s No. 4 Falgout Holding Co., Sec. 9-19s-22e. T.D. 65 ft.

Martex Oil Corp.'s No. 5 Falgout Holding Co., Sec. 9-19s-22e. T.D. 5,451 ft.; 5½-in. csg. 5,180 ft.; perf. csg. 5,158-70 ft.; I.P. 240 B.P.D.; 12/64-in. ck.

Martex Oil Corp.'s No. 3 Rebstock, Sec. 2-19s-22e. T.D. 2,674 ft.; 5½-in. csg. 2,660 ft.; I.P. 106 B.F.P.D. 3% S.W.

Martex Oil Corp.'s No. 1 Yankee Canal Sec. 22-19s-22e. Loc.

Geo. O'Dwyer's No. 3 La Fourche Realty Co., Sec. 21-19s-22e. T.D. 5,500 ft.; run csg.

S. Rhodes' No. 1 Nickerson, Sec. 12-9s-8w. Drlg. sh. 5,520 ft.

C. R. Schuster's No. 1 Broussard, Sec. 2-19s-22e. T.D. 2,648 ft.; 5-in. csg. 2,637 ft.; W.O.S.R.

Terouche Oil Co.'s No. 2 Cheramie, Sec. 12-19s-22e. Drk.

Texas Co.'s No. 13 Falgout Holding Co., Sec. 9-19s-22e. Drlg. sdy. sh. 4,892 ft.

Texas Co.'s No. 12 Golden Meadow, Sec. 78-19s-21e. T.D. 9,250 ft.; sdtrkd.; drlg. sdy. sh. 6,486 ft.

Texas Co.'s No. 6 La Terre, Sec. 1-20s-21e. 10¾-in. csg. 2,050 ft.; T.D. 10,680 ft.; 7-in. csg. 10,443 ft.; perf. csg. 10,045-60 ft.

Grand Bay—Plaquemines Parish

Gulf Ref. Co.'s No. 2-A Grand Prairie Lv. dist., Sec. 48-20s-18e. T.D. 9,721 ft.; P.B. 9,707 ft.

Gulf Oil Co.'s No. 7-A Grand Prairie Lv. dist., Sec. 5-20s-19e. Drlg. sh. 8,147 ft.

Gulf Oil Co.'s No. 8-A Grand Prairie Dist., Sec. 5-20s-19e. Loc.

Gulf Oil Co.'s No. 9-A Grand Prairie Lv. dist., Sec. 31-19s-19e. Loc.

Gulf Oil Co.'s No. 5 State QQ, Sec. 31-19s-19e. Loc.

Texas Co.'s No. 3 State-Lookout Pass, Sec. 6-20s-19e. T.D. 10,069 ft.; 7-in. csg. 10,065 ft.; perf. csg. 8,374-94 ft.

Grand Lake—Cameron Parish

Amerada Pet. Corp.'s No. 11 State, Sec. 12-13s-4w. Drlg. sh. 2,020 ft.

Superior Oil Co.'s No. 10 State, Sec. 5-16s-4w. T.D. 8,955 ft.; perf. csg. 8,948-55 ft.

Hackberry—Cameron Parish

Hanson & Abercrombie's No. 2 Verdin, Sec. 36-12s-10w. Drlg. sh. 7,720 ft.

Stanolind O. & G. Co.'s No. 22 Cameron Parish, Sec. 16-12s-10w. Drlg. sh. 8,486 ft.

Stanolind O. & G. Co.'s No. 31 Gulf Ld., Sec. 25-12s-11w. T.D. 7,980 ft.

Superior Oil Co.'s No. 2 Kaough, Sec. 31-12s-10w. Drlg. sh. 5,372 ft.

Happytown—Iberville Parish

Shell Oil Co., Inc.'s No. 1 Schwing Lbr. & Shingle Co., Sec. 85-7s-8e. Cg. sh. 10,916 ft.

Jeanerette—St. Mary Parish

Cajun Oil Co.'s No. 1 Roanes Sugar Co., Sec. 58-13s-8e. Drk.

Herton Oil Co.'s No. 10 Banta, Sec. 40-13s-9e. 10¾-in. csg. 2,950 ft.; cg. sd. 10,212 ft.

Jefferson Island—Iberia Parish

Texas Co.'s No. 5 Jefferson Island, Sec. 58-12s-5e. 19¾-in. csg. 2,209 ft.; drlg. sh.&L. 7,280 ft.

Texas Co.'s No. 6, Jefferson Island, Sec. 59-12s-5e. Drk.

Texas Co.'s No. 3 State, Twp. 12s-5e. 7⅝-in. csg. 7,573 ft.; drlg. sh.&L. 7,862 ft.

Jennings—Acadia Parish

Shell Oil Co., Inc.'s No. 11 Community, Sec. 40, 10¾-in. csg. 1,721 ft.; T.D. 8,135 ft.

Stanolind O. & G. Co.'s No. 118 Crowley, Sec. 48-9s-2w. Drlg. 2,030 ft.

Stanolind O. & G. Co.'s No. 20 Houssiere-Latreille, Sec. 47-9s-2w. Drlg. sd.&sh. 4,639 ft.

Kenilworth—St. Bernard Parish

Vendome Pet. Corp.'s No. 3 Kenilworth, Sec. 76-14s-14e. Drlg. sh. 2,367 ft.

Lafitte—Jefferson Parish

Texas Co.'s No. 16 L.L.&E., Lafitte, Sec. 17-17s-24e. T.D. 10,155 ft.; 7-in. csg. 10,154 ft.; perf. csg. 10,110-20 ft.

Texas Co.'s No. 6 Marrero, Sec. 21-17s-24e. 10¾-in. csg. 1,861 ft.; drlg. sd.& sh. 6,596 ft.

Texas Co.'s No. 4 State, Sec. 28-17s-24e. Drlg. sdy. sh. 4,821 ft.

La Fourche Crossing—La Fourche Parish

Lisbon-Iberia Oil Co.'s No. 1 Joe Bergeron, Sec. 16-15s-17e. M.I.M.

Lisbon-Iberia Oil Co.'s No. 1 Prosper Thibodaux, Sec. 17-15s-17e. Drlg. 9,963 ft.

Mikton Oil Co.'s No. 3 Martinez, Sec. 13-15s-17e. 10¾-in. csg. 2,700 ft.

Lake Mongoulois—St. Martin Parish

Texas Co.'s No. 8 State, Sec. 10-10s-9e. T.D. 10,788 ft.; run 7-in. csg. to test sd. 10,380-92 ft.

Lake Palto—Terrebonne Parish

Texas Co.'s No. 31 State, Sec. 8-23s-18e. T.D. 5,666 ft.; P.B.; sdtrkd.; cg. sdy. L. 5,346 ft.

Lake Salvador—Plaquemines Parish

California Co.'s No. 1 Delta Minerals, Lse. 5, Sec. 2-15s-24e. 20-in. csg. 135 ft.

Leeville—La Fourche Parish

Texas Co.'s No. 73 Leeville, Sec. 27-21s-22e. T.D. 8,319 ft.; run 7-in. csg.

Neale—Beauregard Parish

Atlantic Ref. Co.'s No. 1 Musser-Davis Lbr. Co., Sec. 26-3s-11w. Drlg. 4,820 ft.

Atlantic Ref. Co.'s No. 1 Spiers, Sec. 26-3s-11w. T. sd. 8,356-70 ft.; T.D. 8,440 ft.; run csg.

New Iberia—Iberia Parish

Acadian Prod. Co.'s No. 4 E. T. Weeks, Sec. 51-12s-7e. Loc.

Wm. Helis' No. 10 Schwing, Sec. 56-12s-7e. T. salt 8,952 ft.; T.D. 8,960 ft.; 6-in. csg. 8,883 ft.; perf. csg. 8,706-16 ft.; gas well.

Texas Co.'s No. 2 Bryant, Sec. 25-12s-7e. R.U.

Texas Co.'s No. 7 Bryant, Sec. 25-12s-7e Drlg. sd.&gvl. 1,662 ft.

Texas Co.'s No. 16 Duke, Sec. 26-12s-7e. Drlg. sh.&L. 5,444 ft.

North Crowley—Acadia Parish

Humble O. & R. Co.'s No. 1 Quebodeaux, Sec. 45-8s-1e. Drlg. sd.&sh. 8,720 ft.

Humble O. & R. Co.'s No. 5 Stakes, Sec. 33-8s-1e. T.D. 8,955 ft.; perf. csg. 8,-109-12 ft.; no ga.

Humble O. & R. Co.'s No. 6 Stakes, Sec. 33-8s-1e. Drk.

North Elton—Calcasieu Parish

W. T. Burton's No. 1 Calcasieu Nat'l Bnk., Sec. 23-6s-3w. Drlg. S.W. sd. 7,449 ft.

W. T. Burton's No. 1 Pine Farms, Sec. 24-6s-3w. Loc.

Paradis—St. Charles Parish

Humble O. & R. Co.'s No. 1 Matthews & Olivera, Sec. 4-14s-20e. Loc.

Texas Co.'s No. 4 L.L.&E. Paradis, Sec 6-14s-20e. 10¾-in. csg. 2,607 ft.; T.D. 10,680 ft.; 7-in. csg. 10,680 ft.; perf. csg. 10,355-80 ft.; I.P. 973 B.P.D.; ¼-in. ck.

Texas Co.'s No. 1 Sunset Realty & Planting Co., Sec. 38-14s-20e. 10¾-in. csg. 2,716 ft.; drlg. sdy. sh. 10,060 ft.

Plumb Bob—St. Martin Parish

Texas Co.'s No. 13 St. Martin Ld. Co. Sec. 21-8s-7e. T.D. 8,464 ft.; 7-in. csg. 8,464 ft.; perf. csg. 8,256-70 ft.; I.P. 540 B.P.D.; ¼-in. ck.

Texas Co.'s No. 14 St. Martin, Sec. 21-8s-7e. 18⅝-in. csg. 108 ft.

Port Barre—St. Landry Parish

Gulf Ref. Co.'s No. 16 Wilson Cochran, Sec. 4-6s-5e. Drlg. sh. 6,300 ft.

McDannald Oil Co.'s No. 1 Sibille, Sec. 7-6s-6e. T.D. 5,488 ft.; S.D.

Sorrento Synd.'s No. 2 L. L. Barnard, 7-6s-6e. Loc.

Texas Co.'s No. 28 Botney Bay, Sec. 4-6s-5e. T.D. 6,136 ft.; 7-in. csg. 6,074 ft.

Potash—Plaquemines Parish

Humble O. & R. Co.'s No. 44 Orleans Lv. Bd., Sec. 13-18s-15e. 16-in. csg. 284 ft.; drlg. sd.&sh. 2,786 ft.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp.'s No. 6-A Orleans Lv. Bd Sec. 7-19s-17e. Perf. csg. 8,195-96 ft.; tstg.

Gulf Ref. Co.'s No. 17 State, Twp. 19s 17e. 9⅝-in. csg. 8,431 ft.; T.D. 9,687 ft.; perf. csg. 8,195-96 ft.; tstg.

Gulf Ref. Co.'s No. 18 State, Twp. 19s-17e. Loc.

Sorrento—Ascension Parish

Pan American Prod. Co.'s No. 18 United Ld. Co., Sec. 15-10s-4e. T.D. 1,456 ft.

Pan American Prod. Co.'s No. 19 United Ld. Co., Sec. 15-10s-4e. Loc.

Sorrento Synd.'s No. 2 L. L. Bernard, Sec. 22-10s-4e. R.U.

South Jennings—Jeff Davis Parish

W. H. Collins' No. 1 Richard, Sec. 22-10s-3w. Drk.

Stanolind O. & G. Co.'s No. 1 W. H Adams, Sec. 14-10s-3w. T.D. 9,606 ft.; perf. csg. 8,630-35 ft.; rec. S.W.

Stanolind O. & G. Co.'s No. 1 E. K. Atwell, Sec. 14-10s-3w. Drlg. sh. 8,840 ft.

Stanolind O. & G. Co.'s No. 1 Hebert, Sec. 21-10s-3w. Drlg. sh. 8,867 ft.

South Roanoke—Jeff Davis Parish

Continental Oil Co.'s No. 2 Fay, Sec. 31-10s-3w. Drlg. sh. 9,810 ft.

Starks—Calcasieu Parish

W. T. Burton & McLean's No. 2 Industrial Lbr. Co., Sec. 29-9s-12w. T.D. 5,849 ft.; T. sd. 5,833 ft.; S.D.

W. T. Burton Oil Co.'s No. 1 Lutcher Moore Lbr. Co., Sec. 30-9s-12w. T.D. 4,810 ft.; 5½-in. csg. 3,990 ft.; fsg.

Sweet Lake—Cameron Parish

Pure Oil Co.'s No. 17 Stanolind O. & G. Co., Sec. 12-13s-8w. 9⅝-in. csg. 1,431 ft.; T.D. 7,769 ft.; W.O.C.

Timbalier Bay-La Fourche

Gulf Ref. Co.'s No. 6 State, Sec. 36-23s-21e. Loc.

Valentine—La Fourche Parish

T. G. Markley et al's No. 2 Dousson, Sec. 100-17s-20e. Drlg. sh. 6,930 ft.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co.'s No. 8 Buras Lv. dist., Sec. 22-21s-30e. 10¾-in. csg. 2,475 ft.

Tide Water Asso. Oil Co.'s No. 12 Manhattan Ld. Co., Sec. 35-21s-30e. Loc.

Vermilion Bay—Iberia Parish

Texas Co.'s No. 4-B Vermilion Bay, Twp. 16s-15e. 11¾-in. csg. 4,454 ft.; T. salt 5,855 ft.; 8⅝-in. csg. 7,546 ft.; drlg. sdy. sh. 7,767 ft.

Ville Platte—Evangeline Parish

Amerada Pet. Corp.'s No. 1 J. Foret, Sec. 1-4s-2e. T.D. 10,170 ft.; W.O.C.

Continental Oil Co.'s No. 4-A Corell, Sec. 36-3s-2e. Drlg. sh. 2,516 ft.

Continental Oil Co.'s No. 3 Fontenot, Sec. 47-3s-2e. T.D. 9,503 ft.; fsg.

Continental Oil Co.'s No. 7 Fontenot, Sec. 3-4s-2e. Drlg. sh.&sd. 8,966 ft.

Continental Oil Co.'s No. 5 Hass, Sec. 44-3s-2e. Drlg. sh. 9,190 ft.

Continental Oil Co.'s No. 5 Hirsch, Sec. 44-3s-2e. T.D. 10,229 ft.; tstg.

Contineintal Oil Co.'s No. 4 Tate, Sec. 1-4s-2e. Drlg. sh. 9,976 ft.

Continental Oil Co.'s No. 1 J. E. Vidrine, Sec. 47-3s-2e. T.D. 9,113 ft.; tstg.

Continental Oil Co.'s No. 2 Vidrine, Sec. 1-4s-2e. Drlg. sh.&L. 8,840 ft.

Danciger O. & R. Co.'s No. 3 Vidrine, Sec. 1-4s-2e. Drlg. sh. 8,836 ft.

West Cote Blanche—St. Mary Parish

Texas Co.'s No. 2 State, West Cote Blanche, Twp. 16s-6e. Drlg. sd.&L. 7,846 ft.

Texas Co's No. 3 State, West Cote Blanche, Twp. 16s-6e. Loc.

West Gueydan—Vermilion Parish

Magnolia Pet. Co.'s No. 1 Benoit, Sec. 5-12s-2w. 10¾-in. csg. 1,900 ft.; T.D. 7,327 ft.; abd.

White Castle—Iberville Parish

Jolly Pet. Corp.'s No. 1 E. B. Adams, Sec. 1-11s-12e. T.D. 9,002 ft.; 7-in. csg. 9,001 ft.; P.B. 8,896 ft.; perf. csg. 8,926-32 ft.; I.P. 240 B.P.D.; ⅞-in. ck. pulling screen and lnr. to recomp.

Shell Oil Co., Inc.'s No. 2 Forest Home. Drlg. sdy. L. 4,425 ft.

Woodlawn—Jeff Davis Parish

Union Sulphur Co.'s No. 3 Johnson, Sec. 12-9s-6w. Drlg. sh. 6,310 ft.

Union Sulphur Co.'s No. 1 T. Miller, Sec. 6-9s-5w. Drlg. sdy. sh. 8,650 ft.

S. LOUISIANA WILDCATS

Acadia Parish

Humble O. & R. Co.'s No. 1 F. E. Atkinson, Sec. 20-10s-1e. Drlg. sh. 9,267 ft.

Vincent & Welch et al's No. 1 R. McManus, Sec. 21-7s-1w. Drlg. sd.&sh. 1,920 ft.

Assumption Parish

Shell Oil Co., Inc.'s No. 1 A. L. Patereau,

Unit 1, Sec. 66-16s-14e. Drlg. sh. 11,283 ft.

Beauregard Parish

Danciger O. & R. Co.'s No. 1 G. E. LeRoy, Sec. 2-3s-9e. 10¾-in. csg. 2,048 ft.; drlg. sh. 3,965 ft.

Calcasieu Parish

W. T. Burton et al's No. 1 Mayo Realty Co., Sec. 8-11s-8w. R.U.

Cameron Parish

Phillips Pet. Co.'s No. 1 Miami Corp Sec. 11-4s-6w. Well tried to blow out: stk. D.S.; sdtrkd. 3,775 ft.; 9⅝-in. csg 9,583 ft.; T.D. 10,655 ft.; S.O.&S.W.; conditioning mud.

Superior Oil Co.'s No. 3 State, Sec. 1-14s-9w. Drlg. sd.&sh. 6,939 ft.

East Baton Rouge Parish

Farris & Golding Drlg. Co.'s No. 1 Paulet, Sec. 58-8s-1e. 10¾-in. csg. 1,780 ft S.D. 6,828 ft.

Iberville Parish

Falcon-Seaboard's No. 1 Folse, Sec. 11s-13e. 13⅜-in. csg. 2,335 ft.

Jeff Davis Parish

H. M. Naylor's No. 1 Acadia Dev. Co., Sec. 12-10s-2w. 10¾-in. csg. 2,115 ft.; 9⅝-in. csg. 9,006 ft.; T.D. 10,000 ft.; 7-in. csg. 10,000 ft.; perf. csg. 9,703-20 ft.; flwg. est. 30 B.F.P.H., 50% dist., bal. S.W.; tstg.

Union Sulphur Co.'s No. 1-A Calcasieu Natl. Bnk., Sec. 2-8s-4w. R.U.

Jefferson Parish

Shell Oil Co., Inc.'s No. 1 State, Sec. 27-20s-24e. Driving piling.

Vendome Pet. Co.'s No. 1 Coulon, Sec. 15-15s-23e. Drlg. sh. 10,132 ft.

La Fourche Parish

Ernest Cockrell's No. 1 La Fourche Ld. Co., Sec. 32-18s-22e. 10¾-in. csg. 65 ft.; T.D. 2,988 ft.; T.A.

Gulf Oil Corp.'s No. 1-B Bowie Lbr. Co. Sec. 69-15s-19e. T.D. 12,512 ft.; perf. csg. 12,262-68 ft.; rec. drlg. mud on D.S.T.

Humble O. & R. Co.'s No. 1 Caldwell Sugars, Inc., Sec. 115-14s-15e. 13⅜-in csg. 2,988 ft.; 9⅝-in. csg. 10,921 ft.; drlg. sh. 12,409 ft.

Orleans Parish

W. T. Burton Co.'s No. 3 State-Lake St. Catherine, Twp. 11s-14e. Loc.

Plaquemines Parish

Gulf Oil Corp.'s No. 1-E Buras Lv. dist., Sec. 1-23s-10e. T.D. 9,287 ft.; 9⅝-in. csg. 9,269 ft.; R.U. to D.D.

California Co.'s No. 1 Delta Minerals, Sec. 2-15s-24e. 13⅜-in. csg. 2,028 ft.; T.D. 10,246 ft.; 7-in. csg. 10,188 ft. perf. csg. 9,960-65 ft.; flwd. 192 B.F.P.D., 18 to 25% S.W. through ⅛-in. ck.

Rapides Parish

Gulf States' No. 1 Long Bell Lbr. Co., Sec. 46-4n-3w. S.D. 55 ft.

R. L. Wheelock et al's No. 1 H. V. Rushing, Sec. 1-2n-1e. T.D. 6,401 ft.; abd.

St. Charles Parish

Celestine Oil Co.'s No. 1 Celestine plantation, Sec. 17-11s-4e. Drlg. sh. 750 ft.

R. H. Parker et al's No. 1 C. L. Thompson, Sec. 87-13s-20e, 10¾-in. csg. 2,599 ft.; T.D. 11,214 ft.; abd.

Texas Co.'s No. 1 State-Lake Salvador, Twp. 16s-22e. Loc.

St. James Parish

Arcadian Prod. Co.'s No. 1 Celstine Plant, Sec. 74-11s-4e. T.D. 1,244 ft.

St. Landry Parish

S. A. Thompson's No. 1 Wm. Murphy, Sec. 22-5s-6e. 10¾-in. csg. 1,209 ft.; T.D. 7,749 ft.; abd.

St. Mary Parish

Sun Oil Co.'s No. 1 Belle Isle, Sec. 6-18s-11e. Drlg. sh. 7,396 ft.

Terrebonne Parish

Barnsdall Oil Co.'s No. 1 Nelson, Sec. 2-21s-11e. 10¾-in. csg. 2,767 ft.; 8⅝-in. csg. 10,505 ft.; T.D. 11,731 ft.; D.S.S.; P.B. 8,500 ft.; perf. csg. 7,020-37 ft.; rec. mud on D.S.T.; abd.

Stanolind O. & G. Co.'s No. 1 State (Bay Junop), Sec. 35-21s-14e. 20-in. csg. 95 ft.

Texas Co.'s No. 5 State, Coon Point, Twp. 23s-14e. Loc.

Vermilion Parish

I. Delcambre's No. 1 Renard, Sec. 17-13s-5e. S.D. 825 ft.

Union Oil Co. of Calif.'s No. 1 Walter White hrs., Sec. 17-15s-1e. 13⅜-in. csg 2,800 ft.; T.D. 10,395 ft.; P.B.; sdtrkd.; drld. to 10,277 ft.; 7-in. csg. 10,274 ft.; drlg. sh. 10,364 ft.

Sur. T.D. 7,700 ft.; 5½-in. csg. 7,674 ft.

Republic Prod. Co.'s No. 37 fee, N. Hurd Sur. Drlg. sh.&L. 5,810 ft.

Dick Schwab et al's No. 1 Nona Fletcher Lbr. Co., E. Thompson Sur. Drlg. sh. 6,568 ft.

Hilje—Wharton County

Texas Co.'s No. 1 A. R. Benner et al, E.T.R.R. Sur., Sec. 101. Loc.

Texas Co.'s No. 2 Peters, E.T.R.R. Sur., Sec. 101. Loc.

GULF COAST WILDCATS

Brazoria County

Glenn McCarthy's No. 1 W. B. Munson, Samuel Carter Sur. Drlg. sh. 11,224 ft.

Rowan & Nichols Oil Co.'s No. 1 Hubbard, Wm. Harris Sur. 10-min. D.S.T. 9,107-34 ft.; rec. 128 ft. mud and dist.; cg. sh. 9,810 ft.

Chambers County

Humble O. & R. Co.'s No. 1 State, Sec. 247, Galveston Bay. Drlg. 8,710 ft.

Humble O. & R. Co.'s No. 1 State, Sec. 288, Galveston Bay. Loc.

Sun Oil Co.'s No. 1 Clara C. Smith, T.& N.O. Sur. 82. T.D. 8,549 ft.; sdtrkd.; T.D. 8,320 ft.; D.S.S.; P.B.; sdtrkd.; T.D. 8,199 ft.; rmg.

Standard Oil Co. of Texas' No. 61-54 State. T.D. 9,538 ft.; 7-in. csg. 9,129 ft.; perf. csg. 8,563-66 ft.; rec. S.W.; S.D.; T.A.

Colorado County

Cockburn Oil Corp.'s No. 1 R. W. Ferrs, H. Chrisman Sur. Loc.

Shell Oil Co., Inc.'s No. 1 R. H. Goodrich, H. Heller Sur. Drlg. sh. 3,140 ft.

Fort Bend County

H. C. Cockburn's No. 1 G. W. Burkett, Bundieck Sur. Loc.

Superior Oil Corp.'s No. 2 A. P. George, A. B. Keller Sur. 10¾-in. csg. 1,816 ft. drlg. sh. 3,692 ft.

Galveston County

Stanolind O. & G. Co.'s No. 1 J. A. Hulen, A. Brigham Sur. 13⅜-in. csg. 2,470 ft.; T.D. 9,166 ft.; flwg. 601 B.P.H., 60% S.W.; W.P. 1,450 lb.

Harris County

Christian-Carpenter Drlg. Co.'s No. 1 Anderson, J. C. Anderson Sur. 10¾-in. csg. 810 ft.; T.D. 6,470 ft.; P.B. to straighten hole.

Gulf Oil Corp.'s No. 1 H. H. Roberts, A. Roberts Sur. T.D. 7,583 ft., S.D.

Wm. Hobson's No. 1 N. N. Allen, Blk. 12, Geo. Green Sur. 10¾-in. csg. 725 ft. drlg. sh.&L. 4,570 ft.

Joyce Richardson's No. 1 Marks, J. C. Ogburn Sur. Cg. sdy. sh.&L. 7,138 ft.

G. F. Steger's No. 1 Trahan, E. Ruhl Sur. Loc.

Jackson County

Barnsdall Oil Co.'s No. 1 Lozarus, S. F. Austin Sur. T.D. 5,932½ ft.; perf. csg. 5,924-29 ft.; flwg. 6 B.P.H.; 7/64-in. ck.

John Mayo and Kirkpatrick Drlg. Co.'s No. 1 J. H. Tucker, R. Musquez Sur. 10¾-in. csg. 505 ft.

Jasper County

Houston Oil Co. et al's No. 1 Medrano fee, Jose Medrano Sur. 10¾-in. csg. 1,896 ft.; T.D. 7,352 ft.; abd.

Jefferson County

Merrimac Oil Corp.'s No. 1 State, Tr. 72, 50 ft. due E of Harwell's abd. hole. W.O.; R.U.

Liberty County

Hebert & Smith's No. 1 W. E. Boyt, H. &T.C.R.R. Sur. 7-in. csg. 8,700 ft.; T.D. 9,312 ft.; perf. lnr. 8,955-75 ft.; swbd. S.W.; perf. lnr. 8,770-8,807 ft.; tstg.

Matagorda County

Stanolind O. & G. Co.'s No. 1 General American Life Ins., J. C. Peyton Sur. 9⅝-in. csg. 8,001 ft.; T.D. 10,810 ft.; abd.

Texas Gulf Prod. Co.'s No. 1 Gulf Tex. Oil Co., Ira Ingram Sur. Drk.

Texas Co.'s No. 1 A. B. Pierce, H.&G. N. Sur., Sec. 1, Blk. 65, 7-min. D.S.T. 7,914-31 ft.; cg. sd. 8,494 ft.; rec. dist. and wtr.; D.S.T. 8,267-8,320 ft.

Texas Co.'s No. 2 R. V. Taylor, F. George Sur. Drlg. sh. 3,859 ft.

Montgomery County

H. C. Cockburn et al's No. 1 Bender, Montgomery Co. Sch. Ld. and De Crow Sur. Loc.

Continental Oil Co.'s No. 1 Bender est., Montgomery Co. Sch. Ld. Sur. 13⅜-in. csg. 1,243 ft.; T.D. 11,213 ft.; 9⅝-in. csg. 7,200 ft.; sdtrkd.; drld. to 11,250 ft.; P.B. 10,219 ft.; W.O.C.

David B. MacDaniel's No. 1 Hattie O. Baldwin, Walker Co. Sch. Ld. Sur. 10¾-in. csg. 1,230 ft.; T.D. 9,741 ft.; 5½-in. csg. on bttm.; perf. csg. est. 9,300-9,400 ft.; reperf. csg. 9,392-9,425 ft.; swbg.

San Jacinto County

Harrison & Abercrombie's No. 1 W. S. Dixon, Solomon Cole Sur. Drlg. sd.& sh. 8,635 ft.

Shell Oil Co., Inc.'s No. 1 Coldine, J. Rankin Sur. Rec. 9 B.O. and 9 bbl. S.W.; D.S.T. 7,815-7,790 ft.; cg. 8,923 ft.

TEXAS

Week Ended June 8

GULF COAST FIELDS

Anchor—Brazoria County

Humble O. & R. Co.'s No. 2 Mettler, T.D. 10,501 ft.; 7-in. csg. on bttm.

Sun Oil Co.'s No. 1 Morris Stern, Shubal Marsh Sur. 18⅝-in. csg. 128 ft.; T.D. 10,751 ft.; 7-in. csg. on bttm.

Old Ocean—Brazoria County

Harrison & Abercrombie's No. 8 Bernard, C. Breen Sur. Drlg. sh.&sd. 8,758 ft.

Harrison & Abercrombie's No. 1 Mueller et al, M. M. Nuckols Sur. Drlg. sd.& sh. 9,220 ft.

Harrison & Abercrombie's No. 1 A. F. Wilson, D. McCormick Sur. T.D. 10,409 ft.; tstg.

Stanolind O. & G. Co.'s No. 2 Giles, C. Breen Sur. T.D. 10,850 ft.; fsg.

Stanolind O. & G. Co.'s No. 1 Stevenson-Donovan, Inla Keep Sur. 9⅝-in. csg. 7,039 ft.; T.D. 10,612 ft.

Sun Oil Co.'s No. 4 Borsodi, C. Breen Sur. 13⅜-in. csg. 1,520 ft.; 9⅝-in. csg. 7,009 ft.; T.D. 11,085 ft.; S.D.

Sun Oil Co.'s No. 5 McCampbell, C. Breen Sur. Drlg. sd.&sh. 10,429 ft.

South Cotton Lake—Chambers County

Humble O. & R. Co.'s No. 1 E. E. Barrow, S. Barrow Sur. T.D. 8,556 ft.; fsg.

Willow Slough—Chambers County

Sun Oil Co.'s No. 3 R. J. Barrow, A. Ybarbo Sur. Drlg. sh. 8,015 ft.

Caplen—Galveston County

Sun Oil Co.'s No. 5 Zinn & Forman, S. F. Hughes Sur. T.D. 7,850 ft.; 5½-in. csg. on bttm.

League City—Galveston County

Phillips Pet. Co.'s No. 1 Parr, Perry & Austin Sur., Lot 9. Drlg. sh.&L. 9,205 ft.

Phillips Pet. Co.'s No. 4 Stewart Title Guaranty Co., S. F. Austin Sur. 10¾-in. csg. 3,520 ft.; 7⅝-in. csg 9,510 ft.; T.D. 11,270 ft.; well blew out; killed; P.B.; sdtrkd.; drlg. sh. 10,924 ft.

Alta Loma—Galveston County

Stanolind O. & G. Co.'s No. 2 J. A. Hulen, A. Brigham Sur. Loc.

Stanolind O. & G. Co.'s No. 3 J. A. Hulen, A. Brigham Sur. Loc.

Aldine—Harris County

Titanic Oil Co.'s No. 1 Weary, Lots 21 and 20, E. Farias Sur. Loc.

Clear Lake—Harris County

Humble O. & R. Co.'s No. 1 Martyn, Wm. Doble Sur. 9⅝-in. csg. 1,015 ft.

Lolita—Jackson County

Magnolia Pet. Co.'s' No. 1 Four Way ranch, I.&G.N. Sur., Blk. 1, Sec. 11. R.U.

Magnolia Pet. Co.'s No. 1 O. G. Hinshaw, S. F. Austin Sur. 5. Loc.

Magnolia Pet. Co.'s No. 1 Mitchell, S. F Austin Sur. 5. Loc.

Wellington Oil Co.'s No. 2 L. Ranch Co. Blk. 1, Sec. 11, I.&G.N. Sur. Drlg. sh. 965 ft.

Fannett—Jefferson County

Gulf Oil Corp.'s No. 5 Bordages, J. Probarth Sur. Drlg. sh.&L. 6,530 ft.

La Belle—Jefferson County

Sun Oil Co.'s No. 1 Foltz, Sur. 376. 9⅝-in. csg. 7,600 ft.; T.D. 8,683 ft.; perf. csg.

South Chinc—Jefferson County

Titanic Oil Co.'s No. 3-A Broussard, S. Miles Sur. Loc.

Esperson—Liberty County

General Crude Oil Co.'s No. 20 Davis, A. McNeil Sur. 8⅝-in. csg. 7,181 ft.; T.D. 9,734 ft.; P.B. 7,650 ft.; perf. csg. 7,466-98 ft.; rec. S.W.

General Crude Oil Co.'s No. 12-B Esperson, A. McNeil Sur. Loc.

Martha—Liberty County

Stanolind O. & G. Co.'s No. 1 Garrow, I.&G.N.R.R. Sur. 7. T.D. 9,825 ft.; 5½-in. csg. 9,208 ft.; rec. gas-cut mud and S.W.; perf. csg. 8,594-8,600 ft.; reperf. csg. 8,067-74 ft.; I.P. 12 bbl. in 12 hrs.; ⅛-in. ck.

Wilson Creek—Matagorda County

Barnsdall Oil Co.'s No. 1 Stoddard, G. B M. Cotton Sur. 9⅝-in. csg. 7,895 ft.; well blew out; flwd. gas and dist.; prep. to comp.

Ace—Polk County

Shell Oil Co., Inc.'s No. 2 Kirby West Lbr. Co., P. A. Sublett Sur. Drlg. sh. 8,690 ft.

Segno—Polk County

Gordon Oil Co.'s No. 10-A Wing, I.&G. N. Sur. 15. Drlg. sh. 5,510 ft.

Gulf Oil Corp.'s No. 4 Quinn, A. Morales Sur. R.U.

Gulf Oil Corp.'s No. 35 Wing, I.&G.N. Sur. 13. Drlg. sh.&L. 6,686 ft.

Gulf Oil Corp.'s No. 37 Wing, I.&G.N. Sur. 15. Drlg. sh.&L. 3,876 ft.

Humble O. & R. Co.'s No. 23-BX Kirby Lbr. Co., M. Victor Sur. 9⅝-in. csg. 2,940 ft.; T.D. 8,150 ft.; W.O.C.

Joe's Lake—Tyler County

Republic Prod. Co.'s No. 36 fee, N. Hurd

Adv.

"Our driller wants 6000 feet of straight hole, the kind the Sievers Reamer makes!"

Walker County

E. J. Dupree's No. 1 Texas Long Leaf Lbr. Co., M. Milsap Sur. T.D. 3,113 ft. abd.

Washington County

J. A. Deering's No. 1 C. W. Bohne, 5 Gates Sur. S.D. 6,545 ft.

Mount Selman Oil Co.'s No. 1 Fritz Fuelberg, W. Lightfoot Sur. S.D. 5,962 ft.

Standard Oil Co. of Kansas' No. 1 Kamas, S. M. Williams Sur. 10¾-in. csg. 583 ft.; drlg. 2,630 ft.

Wharton County

Eura B. Oil Co.'s No. 1 Hamburger, W. C.R.R. Sur. 65. Loc.

Sam Harrison's No. 1 Carlson, Morris & Cummins Sur., Sec. 3. O.W.D.D.; T.D. 6,510 ft.; perf. csg. 5,806-09 ft.; well went dead; R.U. to pmp.

Magnolia Pet. Co.'s No. 2 A. P. Borden, E. M. Coy Sur. Drlg. sh. 1,015 ft.

Titanic Oil Co.'s No. 1 Kountze, Morris & Cummings Sur., Sec. 3. Drlg. sh. 5,726 ft.

S. W. TEXAS WILDCATS

Aransas County

Continental Oil Co.'s No. 2 St. Charles Co., R. D. Blassman Sur.; (relief well to blow out). Drlg. sh. 8,315 ft.

Atascosa County

H. M. Hill et al's No. 1 Campbell, Chas. Mason Sur. 128. R.U.

Walter Pope's No. 1 Countiss, A.B&M. Sur. 1013. S.D. 715 ft.

Bastrop County

Ashby & Williams' No. 1 C. Y. Powell, J. G. Welchmeyer Sur. T.D. 2,815 ft.; abd.

August Bering's No. 1 Rivers, B. Osborne Sur. Drlg. 1,412 ft.

C. R. Franklin's No. 1 Oscar McDonald, Martha Baker Sur. T.D. 2,232 ft.; 5½-in. csg. 1,500 ft.; S.D.

W. C. McGlothlin et al's No. 1 Bill, Albert Black Sur. T.D. 3,154 ft.; 5½-in. csg. 3,143 ft.

Ogden & Riddle's No. 6 Riddle, J. B Blalock Sur. T.D. 2,244 ft., clk.; 5½-in. csg. 2,005 ft.; fsg. for tbg.

Bee County

Mills Bennett Prod. Co. and Anderson-Prichard Oil Corp.'s No. 2 Robinson, J. M. Uranga Sur. (Wlx. test, West Tuleta field). 13-in. csg. 2,537 ft.; 9⅝ in. csg. 7,804 ft.; T.D. 9,210 ft.; perf. csg. 7,545-50 ft.; tstd. 6⅛ bbl. dist. per hr.; ¼-in. ck. on tbg.; T.P. 2,600 lb.; C.P 2,250 lb.; S.I.; W.O.

Sultex Oil Co.'s No. 1 Wood, Jas. McGeehan Sur. 7-in. csg. 6,162 ft.; T.D. 6,306 ft.; perf. csg.

Bell County

J. J. Cormas' No. 1 Jeff Ellis, Elizabeth Berry Sur. S.D. 493 ft.

Bexar County

C. G. Bigby's No. 1 Mauermann, Fermando Rodriguez Sur. T.D. 490 ft.

Joe Noake's No. 1 San Antonio Sub Irrg. Farm, W. Miller Sur. 180. S.D. 860 ft.

Roger Putnam's No. 1 Conaway, John H. Lucas Sur. 54. S.D. 540 ft.

Jos. Turner et al's No. 1 John Brown. T. H. Hobbs Sur. 357. Drlg. clk. 3,768 ft.

Brooks County

West Prod. Co.'s No. 1 J. D. Cage, G.C.& S.F. Sur. 31. Loc.

Burleson County

H. Y. Barnett's No. 1 Fick. J. S. Cox Sur. Drlg. 1,557 ft.

Caldwell County

Kean & Williamson's No. 1 E. E. Rector, J. Roberts Sur. T.D. 1,897 ft.; 6⅝-in. csg. 1,732 ft.

Calhoun County

Coronado Corp.'s No. 1 K. Welder, Hidalgo Sur., 3 mi. SE Seadrift. "Tight well"; reported to be tstg.; 5½-in. csg. 9,750 ft.; perf. csg. 9,500-9,800-9,700 ft.; rec. S.W.; made sqze. job at 8,580 ft.; prep. to test.

Ray Ranger et al's No. 1 W. R. Sells, Sam Houston Sur. Drlg. sh. 7,560 ft.

Cameron County

Sal Vieja Oil Co. et al's No. 1 Garcia, Santa Isabel gr. 8⅝-in. csg. 8,322 ft.: T.D. 10,307 ft.; set 471 ft. of 5-in. lnr. 8,603 ft.; perf. lnr. 8,500 ft.; to comp. as gas well.

Duval County

Bridwell Oil Co.'s No. 1-A Rogers, J. Poitevent Sur., Sec. 21. Rec. 210 ft. oil; 10-min. D.S.T. 4,321-27 ft.; T.D. 4,327 ft.; 5½-in. csg. 4,321 ft.; tstg.

W. L. Catlin et al's No. 1 Louis Escapule. J. Poitevent Sur. 73. R.U.

Frank Frohnoefer's No. 1 V. Carrillo, A. Cantus Sur. R.U.

Gorman & Yoakam et al's No. 1, D.C.R C.G.C.&S.F.R.R. Sur. 193. T.D. 2,306 ft.; abd.

Magnolia Pet. Co.'s No. 1 Sinclair hrs.. F. C. and C. K. Gravis Sur. 510. Loc.

Mayfair Oil Corp.'s No. 2 Yates, J. Poitevent Sur. 323. T.D. 3,550 ft.; abd.

Providence Oil Corp.'s No. 1 C. Driscoll, I.&G.N. Sur., Sec. 138. Loc.

Sun Oil Co.'s No. 1 Garcia, A.B.&M. Sur., Sec. 407. T.D. 5,087 ft.; 5½-in. csg. 4,959 ft.; perf. csg. 4,900-10 ft.; pmpg.; 10 bbl. P.L.O. per day; tstg.

Gillespie County

E. L. Nixon's No. 1 Mayford, Pedro Cobrera Sur. 29. S.D. 160 ft.

Goliad County

J. K. Culton's No. 1 S. E. Cole, Goliad Town Tr. Loc.

Tom Graham Oil Co.'s No. 1 R. H. Wood, D. Morris Sur. Drlg. 2,200 ft.

Gonzales County

M. T. Huebner's No. 1 M. P. Smith, R. Plummer Sur. T.D. 1,135 ft.

Guadalupe County

Wellington Oil Co.'s No. 1 Mouermann, Jose de la Bauma Sur. T.D. 3,638 ft.; prep. to abd.

Hidalgo County

Gulf State Oil Co.'s No. 2 Cardinas, San Salvador del Tule gr. 16-in. csg. 157 ft. T.D. 8,700 ft.; perf. csg. 7,315-30 ft.; flwd. 35 bbl. dist. and 5,600,000 cu. ft.

Jim Hogg County

Achning-Daubert's No. 1 Wood, Sabas de la Garza Sur. 82. Rec. 180 ft. oil; 15-min. D.S.T. 2,607-14 ft.; 7-in. csg. 2,607 ft.

French Oil Corp.'s No. 3 Pena, G. W. Rose Sur. 574. Loc.

Humble O. & R. Co.'s No. 3 Mestena O. & G. Co., San Antonio de Baluarte gr.. Sec. 392. T.D. 6,012 ft.; P.B. 4,658 ft.

R. A. Welch's No. 2 Hachar. Sur. 266, 10¾-in. csg. 105 ft.; drlg. sh. 2,146 ft.

Jim Wells County

H. H. Howell's No. 1 San Antonio Joint Stock Ld. Bnk., Lopez gr., Sec. 9, Blk. 14. T.D. 6,556 ft.; 5½-in. csg. 5,740 ft.

H. H. Howell and Tesemells' No. 1 D. C. Daniels, M. Berrera gr. Loc. abd.

M. M. Miller & Son's No. 1 T. M. Gallagher, Casa Blanca gr. T.D. 5,624 ft.; 7-in. csg. 5,247 ft.

Karnes County

Jack Frazier's No. 1 Cochran, Daniel B. McConnell Sur. T.D. 2,354 ft.; S.D.

Hewitt & Daugherty's No. 1 J. M. Newberry, C. Martinez Sur. Drlg. sh. 2,402 ft.

Kendall County

C. M. Dewey's No. 2 Seidensticker, R Davis Sur. 20. S.D. 1,415 ft.

Kimble County

Austin Bridge Co.'s No. 1 Wilkinson, Brooks & Burleson Sur. S.D. 823 ft.

J. C. Renfro's No 1. D. C. Morales, Hrs. of H. Grote Sur. 423. T.D. 1,495 ft.; S.D.

Schwab-Carlyle & Auld's No. 1 Baker, F. C. Stisser Sur. Drlg. 1,512 ft.

Kleberg County

Skelly Oil Co.'s No. 1 State, Laguna de Los Olmos gr., Tr. 385. 7⅝-in. csg. 7,669 ft.; drlg. sh. 9,260 ft.

La Salle County

H. R. Cullen's No. 1 A. L. Washburn, L. W. Earnest Sur. 88. Rec. 150 ft. gas-cut mud; S.O.; D.S.T. 4,740-4,805 ft.; drlg. sh. 5,600 ft.

Lee County

Fred Pederson et al's No. 1 Brown, David Hudson Sur. T. Glen Rose L. 6,600 ft. 5½-in. lnr. cmtd. 8,201 ft.; T.D. 8,296 ft.; S.D. for reprs.

Live Oak County

Luling O. & G. Co.'s No. 2 Northern Royalty Corp., G.H.&H. Sur. 1. R.U.

Sinclair Prairie Oil Co.'s No. 1 Hamilton, Hooper & Wade Sur. 119. 10¾-in. csg. 510 ft.; T.D. 4,514 ft.; abd.

L. W. Stieren's No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

W. F. Ashby's No. 1 Enlaw, D. M. Stapp Sur. 27. S.D. 1,037 ft.

H. F. Baker's No. 1 Galloway, G. R. Galloway Sur. 34. Loc.

Cities Service Oil Co.'s No. 1 H. W. Rhode, Seale & Morris Sur. 13. R.U.

Jake Jarmon's No. 1 Hayter, B.S.&F. Sur. 105. Drlg.

McCormick-King Prod. Co.'s No. 1 Shiner, Jose Alderete Sur. 14. R.U.

Medina County

W. D. Bacon's No. 1 Wurzbach, Juan Delgado Sur. 37½. T.D. 420 ft.; 8¼-in. csg. 420 ft.; S.D.

G. R. and L. J. Dorsey's No. 1 Robertson, John George Sur. S.D. 310 ft.

Nueces County

Humble O. & R. Co.'s No. 1 State. Nueces Bay. Tr. 723. 10¾-in. csg. 1,712 ft.

John Manley et al's No. 1 Ruegg, Geo. H. Pauls subd. of Driscoll ranch. Loc.

Pure Oil Co.'s No. 1 S. Little, S. Ward Sur. 194. 13⅜-in. csg. 179 ft.; drlg. sh. 7,020 ft.

Richardson Pet. Co.'s No. 1 Boy Scouts of America, M. L. De Herrera gr. (Robstown field). Drlg.

Southern Minerals Corp.'s No. 1 Community, Paso Ancho de Abajo gr. Drlg. sh. 6,467 ft.

Stanolind O. & G. Co.'s No. 1 State, C. M. Blucher Sur., Tr. 746, 1⅛ mi. S of E. White Point field. Loc.

Texas Conservative Oil Co.'s No. 1 Isensee, Gregorio Farias Sur. Drlg. sh. 2,210 ft.

Refugio County

C. L. Norsworthy's No. 1 T. C. Holeman, M. Reilly Sur. T.D. 6,509 ft.; 5½-in. csg. 2,100 ft.; perf. csg. 1,970-90 ft.

San Patricio County

W. S. Boyle and R. Wimberly's No. 1 R. L. Hodges. Drlg. sh. 2,246 ft.

Starr County

A. L. Bone et al's No. 3 Garcia, Juan Salinas Por. 71. Drlg. sh.&sd. 385 ft.

Geo. Boyle et al's No. 1 Carruth, Santiago Lopez Porc. 92. T.D. 3,504 ft.; 5½-in. csg. on bttm.; perf. csg. 3,490-98 ft.; I.P. 93 bbl. 43-gr. oil per day; various cks.

Glen Harroun's No. 1 Green & Manning, Juan J. Garza Falcon Porc. 81. T.D. 2,644 ft.; 5½-in. csg. 2,621 ft.; I.P.; gas well.

Lynes & Robertson's No. 1 Villareal, C. C.S.D.&G.N.R.R. Sur. 241. Loc.

Magnolia Pet. Co.'s No. 3 Guerra, Santa Cruz gr. (La Reforma field). T.D. 6,663 ft.; abd.

Sun Oil Co.'s No. 1 Claude King, C.C.S. D.&R.G.N.G.R.R. Sur. 511. Drlg. sh. 3,878 ft.

Sun Oil Co.'s No. 1 W. G. Lehr, C.C.S.D. R.G.N.G.R.R. Sur. T.D. 5,542 ft.; 5½-in. csg. 4,468 ft.; perf. csg. 4,100-54 ft.; pmpd. 29 B.O. in 6½ hrs.; 250 lb. W.P.

Syndicate Oil Corp.'s No. 1 Sanchez, Santos Sanchez Sur. 344. T.D. 1,004 ft.

Travis County

J. H. Sprouls and A. G. Hinn's No. 1 A. D. Balm, Santiago de Valle gr. T.D. 1,273 ft.

Ralph R. Tanner's No. 1 Felix Cherico, Santiago del Valle Sur. S.D. 660 ft.

Val Verde County

Joiner Oil Co. et al's No. 1 Clyde Sellers. T.D. 2,002 ft.; rmg.

Victoria County

British American Oil Co.'s No. 1 J. J. Warden, E. McDonough Sur. 10¾-in. csg. 505 ft.; T.D. 5,707 ft.; abd.

Colton & Colton's No. 1-D Edwin Fimbel, T.&N.O. Sur. 3. T.D. 4,336 ft.; abd.

Colton & Colton's No. 1 Terrell, J. B. Sideck Sur. T.D. 5,285 ft.; 7-in. csg. 5,284 ft.; prod. decreased to 1½ B.P. H.; prep. to dpn.

Colton & Colton's No. 1 Wray, C. L. Thurmond Sur. R.U.

Maryland Oil Co.'s No. 1 A. Kolle, C. Sambrano Sur. T.D. 3,527 ft.; abd.

Pacific Irwin O. & G. Co.'s No. 1-B Keeran, M. de Leon Sur. Loc.

S. W. Richardson's No. 1 Keeran, M. Le Deon Sur. Drlg. sh. 5,995 ft.

S. J. Ryan's No. 1 Bankers Mortgage Co., A. Esparza Sur., Lot 1, Blk. 2. 10¾-in. csg. 601 ft.; drlg. sd. 6,003 ft.

Geo. Smith's No. 1 Reiman, M. Zepeda Sur. Drlg. sh. 2,280 ft.

C. S. Sollars' No. 1 Knolle, Casiano Sambrano Sur. Cg. sd. 3,160 ft.

Texas Gulf Prod. Co.'s No. 1 Kester, C. M. Creanor Sur. T.D. 6,881 ft.; perf. csg. 5,833-85 ft.; reperf. 5,103-05 ft.; flwg. dry gas; tstg.

Texas Gulf Prod. Co.'s No. 1 Wiseheart. F. Perez Sur. 10¾-in. csg. 1,023 ft.; drlg. sh. 6,100 ft.

Webb County

Glenda Oil Co.'s No. 1 Salvado ranch, Sec. 657, J. V. Borrego gt. Cd. sd. 1,001-08 ft.; 5½-in. csg. 1,002½ ft.; swbd. S.W., S.S.O.

H. E. Hall's No. 1 Slator, Mission Oil Co., J. V. Borrego gr. T.D. 1,477 ft.; run csg.

Locke Purnell's No. 2 Kirkpatrick, C.S. D.&R.G.N.G.R.R. Sur. 57. S.D. 1,805 ft.

M. L. Massingill's No. 2 Kirkpatrick, C. C.S.D.&R.G.N.G. Sur. 59. Loc.

Tide Water Asso. Oil Co.'s No. 8 Bruni, M. Arispe gr.; (deep test, Bruni field). R.U.

Williamson County

Jas. Criswell's No. 1 R. Z. Baker, Theophilis W. Metcalf Sur. S.D. 500 ft.

C. C. Lanier's No. 1 Guental, Harry Cooke Sur. S.D. 1,500 ft.

C. D. Lane's No. 1 Krieg, H.T.&B. Sur. 3. Drlg. L. 1,410 ft.

Wm. C. McGlothlin's No. 1 Swenson, Wm. Byerly Sur. 24. S.D. 2,145 ft.

Wilson County

W. D. Moore et al's No. 1 Lorenz, Morris May Sur. S.D. 75 ft.

Zapata County

Jack Giblin et al's No. 1 Haynes, Villa gr. Loc.

Hawkeye Pet. Co.'s No. 1 Uribe, J. V. Borrego Sur. Cg. sh. 2,903 ft.

Zavala County

W. H. Holland et al's No. 1 Cuellar, J. M. Cuellar Sur. 248. T.D. 1,716 ft.; abd.

H. F. Wilcox O. & G. Co.'s No. 6 Gilliam, Pedro Mesa Sur. 12. T.D. 3,021 ft.; drlg. plug.

H. F. Wilcox O. & G. Co.'s No. 1 Voigt, Jas. Crabtree Sur. 30. Drlg. sh. 2,250 ft.

H. F. Wilcox O. & G. Co.'s No. 1 Webb & Brown, J. M. Polk Sur. Drlg. sh. 70 ft.

WEST TEXAS WILDCATS

Andrews County

Atlantic Refg. Co.'s No. 1-2 University, Sec. 2, Blk. 11, Univ. Lds. Sur. Drlg. 2,320 ft.

Atlantic Refg. Co.'s No. 1-23 University, Sec. 23, Blk. 11, Univ. Lds. Sur. W.O.C. 185 ft.

Helmerich & Payne, Inc.'s No. 1 University, Sec. 11, Blk. 11, University Sur.; 5,500-ft. test. Flwg. 10 B.O.P.H.; T.D. 4,425 ft.; tstg.

Cochran County

Texas Co.'s No. 1-F Mallett Land & Cattle Co., SW cor. Labor 25, Lge. 51, Scurry C.S.L. Sur. Drlg. 2,330 ft.

Concho County

Floyd Dodson's No. 1 Wilson, Thomas Green Sur. 1; 3,500-ft. test. S.D.; csg. 3,398 ft.

Crane County

Gulf Oil Corp.'s No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. Drlg. 6,595 ft.

Gulf Oil Corp.'s No. 1-F University, SE SE Sec. 22, Blk. 31, Univ. Sur. Drlg. 615 ft.

Gulf Oil Corp.'s No. 12 Waddell, Sec. 30, Blk. 26-B, P.S.L. Sur. 12-in. 532 ft.; S.O. 3,215-20 ft.; S.S.G. 3,635 ft.; 8-in. csg. cmtd. 3,713 ft.; S.O. wtr. 3,763 ft.; tstg, 3,780 ft., mostly wtr.; drlg. 4,195 ft.

Gulf Oil Corp.'s No. 31 Waddell Sec. 5 Blk. 24-B, P.S.L. Sur. Drlg. 3,685 ft.; 3,000 ft. O.I.H.

Crockett County

Finance Oil Co.'s No. 1 Hoover, NW cor. SE Sec. 10, Blk. 1, G.C.&S.F. Sur. Loc.

Gregory & McCandless' No. 1 Shannon estate, 1,787 ft. from S and 3,107 ft. from E lines of Lge. 3, Archer C.S.L. Sur. Bldg. road.

Lewis & Shannon's No. 1 Noelke, SW cor. NE Sec. 30, Blk. GG, H.E.W.T. Sur. Top Yates sand 900 ft.; made 35 B.O.P.D.; tstg.; T.D. 1,100 ft.

M. & M. Drlg. Co.'s No. 1 G. Bouscaren, SE cor. NW Sec. 29, Blk. G.G., H.E.& W.T. Sur., 1 mi. N of Soma discovery well; T.D. 830 ft.; U.R. csg.

Mauldin & Solmon's No. 1 Noelke, SE cor. Sec. 56, Blk. G.G., H.E.&W.T. Sur., ¾ mi. NW of Soma discovery well, Prep. spud.

Moore Expltn. Co.'s No. 1 A. C. Hoover, Sec. 16, Blk. 1, G.C.&S.F. Sur. W.O.C. 2,100 ft.; S.S.O. 1,920-2,100 ft.

Moore Expltn. Co.'s No. 1 Noelke, Sec. 10, Blk. G.G. Made 7 B.O.P.D. swbg. from 2,150-2,233 ft.; pump. 7 bbl. oil hourly after acid from 2,338-71 ft.; pumped 129 B.O.P.D.; T.D. 2,371 ft.

Culberson County

Cothran et al's No. 1 Casey-Rounsaville, C SW¼ Sec. 7, Blk. 104, P.S.L. Sur. R.U.M.

Dawson County

Ray Albaugh's No. 2 Robinson, NW NW Sec. 54, Blk. M, E.L.R.R. Sur. Drlg. 4,991 ft.

Ector County

M. A. Grisham et al's No. 1 R. B. Cowden, 600 ft. from N and E lines, Sec. 4, Blk. 45, Twp. 1n (deep test), T.&P. R.R. Sur. P.B. 4,490 ft.; T.D. 6,090 ft., made 144 B.O. in 12 hours.; making est. 285 B.O.P.D.

Llano Oil Co.'s No. 4-B Holt, NW NE Sec. 18, Blk. A, P.S.L. Sur., deep lime test. Spdg.

Gaines County

Richmond Drlg. Co. et al's No. 1 G. R. Brumley, NE NE Sec. 17, Blk. 12-A, P.S.L. Sur. Drlg. 4,303 ft.

Howard County

R. M. Huff's No. 1 E. W. Douthitt, 330 ft. from W and 2,310 ft. from S lines of Sec. 116, Blk. 29, W.&N.W. Sur. Loc.

C. T. McLaughlin's No. 1 Pete Johnson, NE NE Sec. 34, Blk. 32, Twp. 1n, T. &P. Sur. Drlg. 115 ft.

M. L. Richards' No. 1 Thelma J. Cole, SE NW Sec. 12, Blk. 26, H.&T.C. Sur. 3,500-ft. test. Drlg. 80 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co.'s No. 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.& P. Sur. T.D. 6,175 ft.; rng. 5½-in. csg.

Mitchell County

B.R.S. Oil Co.'s No. 1 M. A. Berry, 407 ft. from S and E lines of Sec. 83, Blk. 97, H.&T.C. Sur. Drlg. 910 ft.

Dockery & Robbins' No. 1 C. G. Crawford, SW SW Sec. 13, C. A. O'Keefe subd. Prep. drill ahead below 250 ft.

J. B. Ewing's No. 1 L. A. Strain, 330 ft. from N and 2,970 ft. from W lines of Sec. 63, Blk. 97, H.&T.C. Sur. Spdg.

Ewing & Hanes' No. 1 G. I. Grable, Sec. 195, Blk. 3, H.&G.N. Sur.: 1,800-ft. test. T.D. 1,780 ft., last report.

N. V. Hilburn's No. 1 B. W. Jackson, NE cor. NW Sec. 82, Blk. 97, H.&T.C. Sur., in same section as No. 1 Strain. S.D. 50 ft.; prep. D.D.

N. V. Hilburn's No. 1 E. T. Strain, Sec. 82, Blk. 97, H.&T.C. Sur. S.D.O. 1,790 ft.; drld. sat. 1,706-32 ft. and 1,736-39 ft.; est. 4 B.O.P.D. naturally; prep squeeze cmt. into split csg.

Pecos County

B. McCandless and General Crude Oil Co.'s No. 1 Virginia W. Crockett, Sec. 5, Blk. 110, T.C.R.R. Sur. T. Ellenburger 4,401 ft.; tstg. est. 6,000,000 cu. ft. gas after acd.; rng. tbg.; T.D. 5,479 ft.; est. 4,000,000 cu. ft. gas and 365 B.O. P.D.; made 531 B.O. in 5 hrs.; S.I.

R. G. Pattillo's No. 1 P. E. O'Neal, SW SW Sec. 74, Blk. 10, H.&G.N. Sur., 5,000-ft. test. Drlg. 435 ft.

Plymouth Oil Co.'s No. 1 Richard Levy, SW cor. Sec. 104, Blk. 8, H.&G.N. Sur. Drlg. 3,886 ft.

H. H. Sides' No. 1 Blackstone-Slaughter, Sec. 29, Blk. 129, T.&St.L. Sur., 1,050 ft. W. 250 ft. S lines of section. T.D. 905 ft., last report.

Presidio County

H. D. Wilcox's No. 1 C. E. Conring. 500

ft. from the N and 2,080 ft. from the E lines of Sec. 102, Blk. 4, G.H.&S.A. Sur. Loc.

Reagan County

R. E. Ringo's No. 1 fee, 1,320 ft. from N and W lines of Sec. 22, Blk. K, 3,500-ft. test. Loc.

Reeves County

Roy Johnson's No. 1 H. L. Perkins. Drlg. 705 ft. last report.

Scurry County

Coffield & Guthrie, Inc.'s No. 1 J. W. Moar, Sec. 334, Blk. 97, H.&G.N. Sur., NW Sec.; 4,500-ft. test. Drlg. 3,765 ft.

Ordovician Oil Co.'s No. 1 O. L. Burney, NW NW Sec. 146, Blk. 97, H.&T.C. Sur. Drlg. 1,240 ft.

Stonewall County

Shell Oil Co., Inc.'s No. 1 Smith, Sec 143, Blk. 1, H.&T.C. Sur. Top Mississippian at 6,007 ft., top saturation at 6,015 ft. and drilled to T.D. 6,028 ft. in saturation; flwd. 280 bbl. oil in 24 hrs.; prep. cmt. csg. for test. D.D. below 6,028 ft.

Sutton County

Domain Oil Co.'s No. 1 G. S. Allison, SW NE Sec. 91, Blk. 9, T.W.&N.G. Sur., Ellenburger L. test. Loc.

Terry County

Ray Albaugh's No. 1 Frances Christian, NW cor. Sec. 49, Blk. T, D.&W. Sur., 5,500-ft. test. Loc.

Denver Prod. & Ref. Co.'s No. 1 Ima Lewis, SE SE Sec. 62, Blk. DD, J. H. Gibson Sur. W.O.R. 165 ft.

J. M. Welborn's No. 1 W. E. Bailey, NW NW Sec. 103, Blk. 4-A, C.M.&R.R. Sur., 5,400-ft. test. Loc.

Tom Green County

Dan Short's No. 1 J. G. Davidson, 2,161 ft. from SL, 2,493 ft. from NW cor. L. P. Moore Sur. S.S.O.&G. 2,660-65 ft.; S.D. 3,410 ft.; undecided whether to run csg. or abd.

Upton County

B. C. & D. Dev. Co.'s No. 1 Richard Owens, NE NW Sec. 91, Blk. Y, G.C. &S.F. Sur. S.P. and S.D. to R.U.R.

Ward County

Atlantic Ref. Co.'s No. 1 Wickett-University, Sec. 12, Blk. 16, University Lds Sur., 1,980 ft. N and E lines of section. Prep. D.D. 2,733 ft.; S.S.O. 2,570-2,677 ft.; est. 380,000 cu. ft. gas; flwd. 30 to 40 bbl. oil hourly 2,892 to 2,907 ft.; flwd. 445 B.O. and 1,487 B.W. in 24 hrs.; made 458 bbl. oil and 357 bbl. water in 24 hrs.; P.B. to 2,912 ft. to shut off wtr.; heading 15 B.O. at approx. 6-hr. intervals; tstg.

Gulf Oil Corp.'s No. 5 Wristen, Sec. 13, Blk. 5, H.&T.C. Sur.; scheduled Ordovican test. Cg. 7,587 ft.

Kenneth Slack's No. 1 Bird Hayes, Sec. 148, Blk. 34, H.&T.C. Sur. T. Delaware 5,003 ft.; S.D. 5,010 ft.; T. Dela. sd. and hit est. 15,000,000 cu. ft. gas at 5,050 ft. and gas ignited; making 10,000,000 cu. ft. gas daily; made 1 bbl. oil hourly on test; later made est. 2 bbl. hourly; 5,063-88 ft., T.D.; tstg.

Winkler County

Gulf Oil Corp.'s No. 136 O'Brien, SE SW Sec. 11, Blk. F, G.M.M.B.&A. Sur. Drlg. 2,480 ft.

Gulf Oil Corp.'s No. 1-A Scarborough, Sec. 7, Blk. 22-C, P.S.L. Sur., 1 mile N of Keystone field. S.D.O. 4,276 ft., sulf. wtr.

Yoakum County

Amerada Pet. Corp.'s No. 1 A. M. Brownfield, NE SW Sec. 620, Blk. D, Gibson Sur., 5,500-ft. test. R.U.R.

E. C. TEXAS WILDCATS

Angelina County

Arkansas Fuel Oil Co.'s No. 1 Carter-Kelly, T.&N.O. Sur. 4. T.D. 4,015 ft.

K. L. McHenry's No. 1 Redditt-Fairchilds, 2,700 ft. S and 1,200 ft. E lines of T.&N.O. Sur., 10 mi. SE of Copestown. U.R. 2,805 ft.

Summerall-Harris' No. 2 G. E. Condra, D. W. Maroney Sur., ½ mi. W of Huntington. Drlg. 1,280 ft.

Camp County

W. C. McGlothlin's No. 1 Venters, S. Wright Sur., 3 mi. SE Leesburg. R.U. to D.D. to Pett. zone; prep. set csg. to test show in Pett. L. 7,943-90 ft.; had 47 ft. of sat. and por.; S.D. for tite trouble at 8,087 ft.; well has not been opened; will test about June 22.

Cherokee County

C. C. Lanier's No. 1 W. O. Reagan, W T. Smith Sur., 2½ mi. E of Mixon Drk.

R. D. Salisbury's No. 1 W. M. Shankle, J. A. Manchaca Sur., 1½ mi. NE Chilton. P.B. 1,103 ft.; S.D.; W.O.

Fannin County

C. Newburn's No. 1 A. G. Allen, M Caldwell Sur., 7 mi. NE of Banham R.U. and S.D.

Mrs. A. B. Powell's No. 1 Maude Barker, T. Harrison Sur., 9 mi. N of Bonham, SE cor. 42-ac. tr. S.D. 65 ft.

Freestone County

C. F. W. Young's No. 1 Ray Simmons, M. DeCantona Sur., 1½ mi. W of Simmsboro. S.D.O. 3,500 ft.

Gregg County

Roger Lacy's No. 1 Lacy, S. P. Ford Sur., 3 mi. SW of Longview; deep Trinity gas test. Acd. 5,000 gal.; showing 25,000,000 cu. ft. gas; T.D. 7,308 ft.

Henderson County

Manning & Pickens' No. 1 T. H. Bell, D. Muckleroy Sur., 6 mi. SW of Mabank. T.D. 3,195 ft.; prep. test.

Houston County

G. L. Dixon's No. 1 B. R. Crowson, J. Chears Sur., 5 mi. NW of Lovelady. Cg. 2,177 ft.

Elmer Hay, Tr.'s No. 1 Starr Pope, J Forbes Sur., 2 mi. S of Lovelady, NW cor. 162-ac. tr. S.D. 2,132 ft.

Kaufman County

W. H. McGee's No. 1 Rutland Savings Bnk., John Baker Sur., 2¼ mi. NE of Tulosa. Cg. 3,115 ft.

T. G. Shaw, Tr.'s No. 1 Angus Wynne, B. S. Newman Sur., 8 mi. E. Kaufman. lower Trinity test. T. anhy. 5,934 ft.; T. Massive 6,123 ft.; B. Massive 6,255 ft.; drlg. 6,370 ft.

Leon County

Alexander & Wilhite's No. 1 C. H. Mills, M. Copeland Sur., 2½ mi. E of Normangee. S.D. 10 ft.

Limestone County

Taylor, Lytle & Phillips' No. 1 J. W. Reid, P. Varela Sur., in Mexia field; deep Trinity test, located 150 ft. NW line, 714 ft. NE line of 117-ac. tr. Loc.

Nacogdoches County

Melrose Oil Co.'s No. 1 C. N. Wilson J. Hall Sur., 10 mi. SE of Nacogdoches. Swbg. fresh wtr.; S.S.O. 2,329 ft.

Navarro County

W. H. Warren's No. 1 L. Grey, E. Powers Sur., 9 mi. SE of Kerens. S.D. 660 ft.; T.D.

Robertson County

Rhett Wilder's No. 1 Moise Cerf., J. Erwin Sur., 7 mi. S of Franklin. S.D.O. 1,611 ft.

Rusk County

J. Z. Werby's No. 1 L. G. McMillain, W. F. Allison Sur., 6 mi. SE of New Salem. Conditioning hole 3,918 ft.

A. O. Whittington's No. 1 Kangerga Bros., ign. Castro Sur., 9½ mi. N and slightly E of Pirtle. S.D.O. 2,846 ft.

Van Zandt County

Graddy's No. 1 Dr. C. Brandon, W. C. Scott Sur., 5 mi. NE of Edgewood. Bldg. drk.

E. L. Shackelford's No. 1 E. J. Combs, J. Wright Sur., 3½ mi. NW of Grand Saline. S.D. 54 ft.

EAST TEXAS

(Border Counties)

Bowie County

W. E. Neill's No. 1 Lewis Fort, 600 ft. NL, 150 ft. EL, 103-ac. tr., L. Peters Sur. T.D. 1,105 ft.; prep. res. drlg.

Cass County

Joe Griffin's No. 1 W. H. Daniel, 715 ft. EL, 360 ft. SL, 101-ac. tr., W. Pittman Sur. Cd. 2,814-33 ft.; rec. 15 ft. gr. sh.&sd.; drlg. sd. 4,094 ft.

Harrison County

Ark. La. Gas Co.'s No. 1-C Abney, Jas. Shandoin Sur. M.I.M.

Marion County—Other

R. S. Barnwell, Jr.'s No. 1 J. Fitzgerald, 1,100 ft. S, 800 ft. W, NE cor. N. Gumpton Sur. Set 10¾-in. csg. 45 ft.; drlg. 2,168 ft.

John Coats' No. 2 Ida Burr, 2,740 ft. S, 330 ft. W, NE cor. J. G. Reeves Sur. T.D. 2,392 ft.; W.O.S.R.

Jules Constantine's No. 1 S. Hart, 435 ft. N, 330 ft. E, SW cor. 25-ac. tr., G. Coore Sur. Drk.

B. I. Daniels' No. 1 T. O. Livingston, G. Coore Sur. T.D. 2,330 ft.; W.O. csg.

T. B. Donnell's No. 1 E. W. Easterling, 330 ft. S, 1,200 ft. W, NE cor. 200-ac. tr., M. G. Nall Sur. T.D. 2,341 ft.; set 5⅛-in. csg. 2,234 ft.; pmpg. S.W. 2,-341 ft.; W.O.

J. M. Horne's No. 1 W. F. Singleton, 1,-331 ft. EL, 50 ft. NL, J. O. Jackson Sur. Set 5½-in. csg. 2,267 ft.; tstd. dry; W.O.

H. T. Manning's No. 1 T. O. Livingston, G. Coore Sur. Drk.

J. D. Reynolds' No. 5-B Terry est., W. Coore Sur. T.D. 2,350 ft.; set 5½-in. csg. 2,316 ft.; W.O.S.R.

Roosth & Genecov's No. 1 T. O. Livingston, 300 ft. SW cor. 8-ac. tr., G. Coore Sur. Set 5½-in. csg. 2,281 ft.; W.O.C.

Sentinel Oil Co.'s No. 1 W. Taylor, 700 ft. N, 325 ft. W, SE cor. B.B.B.&C. R.R. Sur. Set 10-in. csg. 45 ft.; set 5⅛-in. csg. 2,229 ft.; tstd. dry 2,347 ft.; drlg. 2,477 ft.

Texas Canadian Oil Co.'s No. 1 B. Mackey, 282 ft. NL, 218 ft. WL, 35-ac. tr., Lewis Needham Sur. R.U.

Marion County—Rodessa

Holcomb & Thomason's No. 1-A Madine, 400 ft. WL, 467 ft. NL, 33.6-ac. tr., A. D. S. Coy Sur. Set 9⅝-in. csg. 1,840 ft.; Hill sd. 5,879 ft.; Gloyd 6,092 ft.; set 6-in. csg. 6,118 ft., T.D.; perf. and acd. 6,096-6,112 ft. and tstd. est. 30,000,000 cu. ft. gas; sqzd. off perf. and drld. out to 6,118 ft.; set 100 ft. of 5-in. aluminum csg. on bttm.; reperf. 6,106-13 ft.; tstd. 750,000 cu. ft. gas and spray oil; 12/64-in. ck.; T.P. 550 lb.; C.P. 650 lb.; acds. 6,118 ft.

Sabine County

Sterm & Womack's No. 1 I. K. Kieth Southwestern Lands, 400 ft. SL, 500 ft. EL, 53-ac. tr., L. Grace Sur. M.I. rig.

Shelby County

Earl McDaniels et al's No. 1 J. S. Swann, 470 ft. EL, 1,400 ft. SL, 100-ac. tr., Ann Gray Sur. T.D. 2,378 ft.; 9⅝-in. csg. 585 ft.; W.O.C.

P. & B. Oil Co.'s No. 2 W. C. Windham, A. K. English Sur. Set 10-in. csg. 170 ft.; T.D. 5,335½ ft.; bailed csg. dry and prep. to D.D.

W. C. Parker's No. 1 F. G. Willey, 480 varas NL, 240 varas EL, 94-ac. tr., A. K. English Sur. Set 5½-in. csg. 3,330 ft.; W.O.C.

Superior Oil Co. of Tulsa's No. 2 Pickering Lbr. Co., 1,020 ft. N, 467 ft. E, SW cor. W. J. Crane Sur., in B. H. Simpson Sur. M.I.M.

WEST CENTRAL TEXAS DISTRICT

Eastland County

Steele & Black's No. 1 B. B. Poe, 150 ft. N and E lines, SE¼ Sec. 6, Blk. 2, H.&T.C. Sur.; 900-ft. test. Drlg. 510 ft.

Hamilton County

A. J. Caldwell's No. 1 W. W. Jones, 1,002 ft. from NE, 150 ft. from SE lines of W. H. Crowder Sur. Drlg. 2,735 ft.

Jones County

Geo. Callihan's No. 1 J. J. Steele, NE cor. SE Sec. 11, Blk. 15, T.&P. Sur. Drlg. 790 ft.

Fain-McGaha Oil Corp. and Ungren & Frazier's No. 1 W. G. Swenson, J. McGrew Sur. 245; 2,650-ft. test. Rng. 8¼-in. csg.; wtr. at 1,305 ft.; drlg. 2,095 ft.

J. C. Hunter's No. 1 W. Z. Betties, 2,150 ft. S, 467 ft. E lines, Sec. 1, T.C.R.R. Sur. Drld. sat. 3,458-63 ft.; drld. plug.; flwd. est. 400 B.O.P.D.; prep. comp.

J. C. Hunter's No. 1 J. Sayles, SE N½ Subd. 8, R. Smith Sur. 192, just NE of Hawley; 3,300-ft. test. Drld. sat. 2,334-45 ft.; tstg.

M. R. Mead's No. 1 E. Hicks, SE cor. Sec. 5, O.A.L. Sur.; 3,500-ft. test. Mch.

Merry Bros. & Perini's No. 1 C. S. Walker, SE cor. Walker tr., G. Martinez Sur. 137. Spdg.

J. D. Sandefer, Jr.'s No. 1 Hudspeth, 160-ac. tr. in Subd. 22, Edw. Miles Sur. 219. Drlg. 1,160 ft.

Parker County

Brown & Gardner Bros.' No. 1 Gilbert, T.&P. Sur., Abst. 1958. Tstg. gas; C.O. 100 ft. off bttm.; csg. set 3,905 ft.; S.I. 4,327 ft.; est. 500,000 ft. gas and spray oil.

C. F. Carter's No. 1 E. F. Yeager, 1,000 ft. from N, 300 ft. from E lines of C. H. Atkinson Sur.; 1,000-ft. test. S.D.O. 268 ft.; H.F.W.; may comp. as wtr. well.

W. M. Holland and C. Leidecker's No. 1 G. W. Keeling, F. Lidely Sur., Abst. 829, 1½ mi. W of Springtown; 3,500-ft. test. Drlg. 830 ft.

C. Leidecker and Wm. Holland's No. 1 J. A. Boyd, NE NE of S 100 ac. of A. J. Edwards Sur.; 4,500-ft. test. M.I.M.

Shackelford County

T. L. Blanton's No. 1 W. F. Tucker, SW Sec. 552, T.E.&L. Sur. Loc.

John E. Carson's No. 1 R. A. Elliott, 660 ft. S and E lines, Sec. 48, B.A.L. Sur.; 3,650-ft. test. S.D. 1,685 ft.

Georgian Oil Corp.'s No. 1 Black ranch, C NE¼ of T.E.&L. Sur. 390, 10 mi. NE of Albany; Ordovician test. T.D. 4,825 ft.; P.B. to Caddo L. for test at 3,860-3,915 ft.; T. Ellenburger 4,730 ft.; P.B. 3,915 ft.; treated with 1,000 gal.; est. 8 to 20 B.O.P.D. at 3,915 ft.; tstg.

F. N. Palm's No. 1 M. E. Daniels, SW cor. NE Sec. 16, E.T.R.R. Sur., 800-ft. test. Drlg. 650 ft.

August P. Schkade's No. 1 J. L. Godwin, NE Sec. 385, T.E.&L. Sur. Loc.

Swann & Gorsuch's No. 1 Sam Lazarus, SE SE Sec. 80, Blk. 13, T.&P. Sur. S.D.; S.S.O. 1,514-17 ft.; tstg.

L. T. Terry's No. 1 W. A. Green, NW cor. S½ NE Sec. 64, Blk. 12, T.&P. Sur. S.D.O. 1,020 ft.; C.D.

Stephens County

Carey's No. 1 Crudington, SE cor. T.E. &L. Sur. 1268, 5½ mi. S of Stribling field. W.O.C. at 3,361 ft.; S.O. from 3,-362-64 ft.; acd. with 2,000 gal. 3,362-71 ft.; tstg.

Jones Bros. Drlg. Co.'s No. 1 T.X.L., 660 ft. N and E lines SE Sec. 3, Blk. 3, S.P. Sur.; 4,050-ft. test. T.D. 4,035 ft.; S.S.O.; tstg.

Panhandle Ref. Co.'s No. 1 Frank Magers, SE Sec. 1, Blk. 3, S.P. Sur., 1¾ mi. N of Fagg area. S.D. 4,007 ft.

Pitzer & West and Brazos-Young Oil Corp.'s No. 1 H. Compton, SW SW Sec. 9, O.A.L. Sur., 1 mi. SE of Lovine pool; 3,600-ft. test. P.B. 3,535 ft.; acd. with 8,000 gal.; tstg. to complete.

J. R. Tolbert's No. 1 W. L. Martin, NW cor. NE¼ Blk. 1335, T.E.&L. Sur., 1½ mi. SW of Fagg area. S.D. 2,300 ft.

Taylor County

Yehudi Oil Co.'s No. 1 J. Bettes, R. Ortiz Sur. 19; 2,500-ft. test; W.O.C. 1,860 ft.

Hose's No. 1 Bond, NE NE Sec. 40, Blind Asylum Lds., 2 mi. SW outpost to Bowles field. S.D.O. 4,720 ft.

NORTH TEXAS WILDCATS

Archer County

W. H. Gant's No. 1 A. Vogtsberger, Sec. 3, G. E. Co. A-146 Sur.; 5,200-ft. test. O.S. 4,659-71 ft.; L.S.O. 5,257-69 (cd.) ft.; cmtd. 6⅝-in. at 4,651 ft.; swbd. 16 B.O. in 16 hrs.; flwd. 62 bbl. in 4 hrs. through csg. after being S.I. for 2 wks.; rng. tbg.; comp.

Paul Steed's No. 1 H. O. Prideaux, Sec. 1867, T.E.&L. Sur.; 5,000-ft. test. Loc.

Baylor County

Paul B. Scott et al's No. 1 C. H. Farr, Sec. 228, T.&N.O. Sur.; 3,100 ft. test. T.D. 3,144 ft.; S.D.O.

Clay County

L. T. Burns' No. 1 Tom Watson, Sec. 2631, T.E.T. Sur.; (3½ mi. SE Shell's Henderson discovery). Set 100 ft. 10-in.; drlg. 4,850 ft.

Deep Rock Oil Co.'s No. 1 S. Dycus, Sec. 2602, T.E.&L. Sur.; 3,600-ft. test. Loc.

E. C. Norwood's No. 1 K. N. Hapgood, Sec. 61, M.C.S.L. Sur.; 6,000-ft. test. Drlg. 2,385 ft.

Youngblood & Foree's No. 1 Ida Wynne, Sec. 2, T.&N.O. Sur., Abst. 795.; O.W. D.D. below 6,070 ft.

Hardeman County

Norris & Gilbert's No. 1 Robert Weekley, SW SE Sec. 87, Blk. 16, H.&T.C. Sur. S.D.R. 3,275 ft.; rebldg. drk.

Jack County

R. A. Conkling's No. 1 M. Hoofle, A. James Sur., Abst. 318, 3 mi. S Antelope; 3,500-ft. test. R.U.C.T.

Montague County

Harvey Drlg. Co. et al's No. 1 D. A. Threadgill, Sec. 10, Jack Co. Sch. Ld. Sur. A-390; 6,000-ft. test. Drlg. 5,672 ft.

Hults & Owens' No. 1 Tucker, NW cor. Sec. 2836, T.E.&L. Sur. Loc.

Tom F. Hunter's No. 1 Fatheree, E½ S. L. Gilliland Sur., 3 mi. S of Illinois Bend in north pt. of county. Loc.

W. H. Peckham's No. 1 Dr. Lawson, N. Kimbro Sur., Abst. 405. R.U.R.

Sinclair Prairie's No. 1 T. H. Mliam, Lot 54, A. Beason A-20 Sur.; 6,000 ft. test. Tstg. S.S.O. 5,666-77 ft.

Sinclair Prairie Oil Co.'s No. 1 G. Whaley, SW cor. of N½ of T. R. Jackson Sur., Abst. 394; 6,000-ft. test. Drlg. 5,065 ft.

Tarrant County

W. L. Cox's No. 1 N. H. Poole, 160 ft. from S and W lines of J. McDonald Sur. Loc.

Throckmorton County

Normandie Oil Corp.'s No. 1 Travis, Sec. 37, Travis Co. Sch. Ld. Fishing 8,127 ft.

Wichita County

Consolidated Oil Co.'s No. 1 E. M. Barnes K, Sec. 11, Blk. 7, H.&T.C. Sur. 6⅝-in. csg. at 4,336 ft.; saturation from 4,336-70 ft.; D.D. to 4,395 ft.; bailed dry and S.D.O.

Wilbarger County

Amerada Pet. Corp.'s No. 1 B. Goodpasture, Sec. 35, H.&T.C. Sur., Blk. 15. 8,000-ft. test. Sat. lime 4,407-20 ft.; 600 ft. oil and 150 ft. mud on 60-min. D.S.T.; drlg. 6,310 ft.

O. M. Stidham & Son's No. 1 C. D. Watts, Sec. 64, H.&T.C. Sur., Blk. 15.; 6,000-ft. test. Drlg. 1,200 ft.

Young County

Commodore Oil Co.'s No. 1 Clinton Realty Co., Sec. 2,384 ft. T.E.&L. Sur. Drlg. 1,860 ft.

H. W. Dyer's No. 1 M. G. Cheney, M. L. Terry Sur., Abst. 1261. S.D. 2,130 ft.; repra.

K. R. March's No. 1 Ed Burton, NE cor. Blk. 99, J. A. True Sur., Abst. 1640, 4 mi. SE Graham; 4,250-ft. test. 4,500 gal. acid 3,952-4,014 ft.; 1,800 ft. O.I.H.; testing.

A. T. Strong's No. 1 Craig heirs, N. Lynch Sur. Drlg. 2,740 ft.

TEXAS PANHANDLE

Childress County

Texas Co.'s No. 1 P. B. Smith, NW NW Sec. 97, Blk. 9, H.&G.N. Sur., 7,500-ft. contract. Lost circulation at 500 ft.; S.D.R.

Hall County

Humble Oil & Ref. Co.'s No. 1 A. D. Weaver, SW NW Sec. 51, Blk. 1, S.P. Sur.; 7,500-ft. test. Drlg. 2,020 ft.

Ochiltree County

James R. Macon et al's No. 1 W. R. Norris, SW SE Sec. 212, Blk. 43, H.&T.C. Sur. T.D. 6,274 ft.; test sec. at 5,000 ft.; est. 6,000,000 cu. ft. gas on D.S.T.; tstg.; bailing 6,274 ft.; csg. cmt. at 5,000 ft.; R.U. control head for testing at est. 6,000,000 cu. ft. gas; plug drilled; tstd. wtr.; rng. more cement to 5,070 ft.

Potter County

Canadian River Gas Co.'s No. 1 City of Amarillo, in city limits just north of city. Prep. cmt. to 3,825 ft. and shoot with 140 qt. from 3,784-97 ft.

Sherman County

I.T.I.O. Co.'s No. 1 S. C. Bryant, C NW¼ Sec. 369, Blk. T-1, T.&N.O. Sur. Perf. csg. from 3,975-88 ft.; shot with 60 qt.; no results.

Dry Hole in Holmes County Only Result in Mississippi

By GEORGE WEBER

JACKSON, Miss., June 10.—A wildcat dry hole in Holmes County was the only completion reported from Mississippi's many acres of exploration in the past week. Drilling in the Pickens field is increasing, with south and west edge tests under way and two outpost wildcats scheduled. In the Tinsley field operators watched a southeast outpost test which is the most interesting in the area.

Leasing continues to decline in the state, with the active campaign which resulted in the leasing of nearly 10 million acres over the past 8 months giving way to trading in leases and royalty interests; the taking of spreads, and some leasing around existing blocks. The leasing of large blocks will continue for some months to come, contingent on the findings of geophysical exploration, with numerous big tracts being shot before leasing provisions in the shooting options are taken up. New wildcat tests, attracting interest to particular localities will also bring additional leasing. Geophysical work holds up, with about 70 crews active in Mississippi and Alabama.

Pickens Developments

Exchange Oil Co. is drilling two tests in the Pickens field proper. No. 3 Wilburn, west offset to No. 2, a producer, is drilling below surface casing, and No. 4 Wilburn, south of No. 2, is rigging up. To the northwest about 1½ miles Hill & Hill are drilling below 3,512 ft. in No. 1 Montgomery, and 3 miles northwest of the field, Leon Dunn is reported planning to begin No. 2 H. H. Pepper, one of eight locations he has made in Section 24-12n-2e. The field has been defined on the northeast by the failure of Exchange Oil Co.'s No. 1 Dixon, a diagonal offset to the discovery well. Drilling is on a 10-acre spacing pattern.

MISSISSIPPI COMPLETIONS

Wildcat—Holmes County

Hawkins & Howell's No. 1 P. S. Jones, Section 27-15n-1e, dry and abandoned, total depth 5,010 ft.

Tinsley Drilling

Tinsley has six active tests under way. Most interesting of these is Whigate Oil Co.'s No. 2 Robertson, a southeast outpost, drilling below 4,366 ft. in a location expected to be across a fault cut by the company's No. 1 dry hole. No. 2 is in the S½ NW SE Section 20-10-3.

A total of 28 wildcats are under way in the state. Several of these are shut down.

It is authoritatively reported that the W. G. Ray Drilling Co.'s (W. E. Hall) No. 1 Irby Charpening, in Issequena County, from which the rig was moved recently, will be deepened. Its present depth is 5,020 ft. and it will be drilled to 7,500 ft. E. L. Martin has staked location for No. 1 Newell Mineral Lease Co. in Scott County about 7 miles southeast of the same operator's No. 1 Adams Edgar Lumber Co., abandoned late last month at 6,525 ft.

MISSISSIPPI

Attala County

P. & M. Oil Co.'s No. 1 J. A. McMillin, 300 ft. SW cor. SE SE Sec. 26-13n-5e. Spd. to 25 ft.; S.D.; titles.

Clarke County

Ark.-Miss. Oil Co.'s No. 1 Long Bell, C SW NE Sec. 35-3n-17e. Set 10¾-in. csg. 2,194 ft.; drlg. sdy. sh. 2,635 ft.

Copiah County

G. C. Koch's (former Triangle Drilling Co.) No. 1 W. W. Broome, 153 ft. SW cor. SW SE Sec. 1-10n-8e. T.D. 3,628 ft.; S.D.

Grenada County

Schuba Valley Prod. Co.'s No. 1 Connecticut General Life Ins. Co., C NE SE Sec. 28-23n-5e. Drk.

Ed Spencer's No. 1 Gillon, Sec. 17-22n-7e. Spdd.; S.D. 360 ft.; S.D.; R.U.

Holmes County

Exchange Oil Co.'s No. 1 S. D. Gwin, 2,170 ft. S line, 1,470 ft. E line, Sec. 6-16n-1e. Drlg. 3,856 ft.

L. A. Hawkins' No. 1 B. W. Humphrey, 1,980 ft. S, 330 ft. W NE cor. Sec. 33-13n-2e. Set 10¾-in. csg. 700 ft.; W.O.C.

A. H. Rowan's No. 1 Eakin, C NW SE Sec. 20-14n-1e. Set surf. csg.; drlg. ch. 5,003 ft.

Issaquena County

Locke & Mellard's No. 1 W. Gary, 660 ft. SE cor. NW¼ Sec. 14-9n-6w. Loc.

W. G. Ray Drlg. Co.'s No. 1 Irby Charpning, approx. C NE NW Sec. 29-10n-8w. Set 13⅜-in. csg. 145 ft.; T.D. 5,020 ft.; moved rig off; will dpn. to 7,500 ft.

Itawamba County

G. C. Grasty et al's No. 1 Ky. Lbr. Co., 1,320 ft. E, 660 ft. S, C Sec. 7-10s-10e. Twisted off D.S.; skd. 24 ft. S and spd.; set 10¾-in. csg. 170 ft.; S.O. 1,500 ft.; T. Trenton L. 1,600 ft.; tstd. sulf wtr. 2,793-97 ft.; ran csg. to 2,795 ft. and shut off sulfur wtr.; bailed S.O. and some gas; drlg. L. 3,310 ft.

Kemper County

M. R. Crabb et al's No. 1 W. T. Caldwell NW SE Sec. 25-9n-15w. 10¾-in. csg. 86 ft.; set 6-in. csg. 1,320 ft.; T.D. 1,640 ft.; acid. with 1,000 gal.; drlg. sh. 2,493 ft.

Lamar County

Miss.-La. Oil Synd.'s No. 1 Simmons 1,020 ft. N, 56 ft. W, SE cor. NE¼ Sec. 32-3n-14w. S.D. 920 ft. (cor. T.D.)

Leflore County

Exchange Oil Co.'s No. 1 Wildwood, SE SE NE Sec. 6-20n-1e. Drlg. 2,650 ft.

Madison County

Ralph A. Johnston's No. 1 J. W. Locke School Land, NE NE Sec. 16-11n-3e. Loc.

Ralph A. Johnston's No. 1 F. H. Ray, C SE SW Sec. 6-8n-3e. Drlg. 5,263 ft.

Owen & Fraim's No. 1 Talmadge, SW NE Sec. 22-11n-3e. Loc.

W. G. Ray Drlg. Co.'s (formerly E. L. Foster's) No. 1 Haffey, NE cor. S½ Lot 5, Sec. 8-10n-5e. Loc. T.A.

Monroe County

Willmut Gas & Oil Co.'s No. 1 Rye, 300 ft. N and E C Sec. 22-15n-17e. Set 10¾-in. csg. 625 ft.; drlg. hd. sdy. L. 899 ft.

Neshoba County

J. P. Evans' No. 1 Mary Oliver, C SW Sec. 18-9n-13e. Loc.

Oktibbeha County

Oktibbeha Oil & Gas Co.'s (Nick Shiarel) No. 1 L. L. Murphy, NE NE NW Sec. 28-17n-12e. Set surf. csg.; W.O.C.

Pike County

S. R. Crouch's No. 1 Cupit, 360 ft. N, 660 ft. W, SE cor. NE SW Sec. 25-2n-7e. Set 6-in. csg. 729 ft.; S.D. 3,390 ft.

Prentiss County

Home Dev. Co.'s No. 1 Mrs. A. Allen Sec. 8-7s-9e. S.D. 1,760 ft.; reported S.O. 1,520 and 1,750 ft.

Robert Burn's No. 1 Walker, Sec. 15-11n-5e. Bldg. drk.

Scott County

Exchange Oil Co.'s No. 1 Newell, Mineral Lease Co., Inc., 330 ft. NW cor. NE SW Sec. 30-7n-7e. T.D. 6,435 ft., sh.; stk. D.S.

E. L. Martin's No. 1 Newell Mineral Lse. Co., 660 ft. W, 330 ft. S, NE cor. Sec. 5-6n-7e. Loc.

Smith County

Haynes B. Owenby Drlg. Co.'s No. 1 State, C SE NE Sec. 6-2n-9e. Set 10¾-in. csg. 510 ft.; T.D. 6,500 ft.; contract depth; S.D.

Tallahatchie County

Gulf Ref. Co.'s No. 1 Cason, C NE Sec. 2-21n-2w. Set 13⅜-in. csg. 153 ft.; drlg. ign. rk. 5,343 ft.

Warren County

H. C. Cummings et al's No. 1 T. H. Morrissey, C E½ W½ NE Sec. 8-17n-2e. T.D. 5,774 ft.; hole bridged 1,250 ft.; sdtrkd. and drld. back in old hole 3,000 ft.; T.D. 6,001 ft., rd. sh.; S.D.

Washington County

Chas. Perkins' No. 1 Gen. American Frams, 2,000 ft. N SE cor. Sec. 9-14n-8w. T.D. 500 ft.; S.D.

Yalobusha County

J. E. Green's No. 1 Walter-Goldman, 247 ft. SW cor., SE NW Sec. 23-25n-6e. Drlg. 475 ft.; cd. sds. 260-320 ft. and 400-68 ft.; drlg. sh. 893 ft.

Stewart Oil Co.'s No. 1 R. H. Creekmore, C SW NE Sec. 21-24n-7e. O.W.D.D.; O.T.D. 3,188 ft.; S.D.

Yazoo County

Leon Dunn's No. 2 H. H. Pepper, 1224 ft. E, 990 ft. S NW cor. Sec. 26-12n-2e. M.I.M.

Exchange Oil Co.'s No. 1 T. A. Bennett, SW SW SE Sec. 28-12n-2e. Loc.

Exchange Oil Co.'s No. 3 Wilburn, SW NE NE Sec. 31-12n-3e. Set surf. csg.; drlg. 690 ft.

Exchange Oil Co.'s No. 4 Wilburn, C NE SE NE Sec. 31-12n-3e. R.U.

Hassie Hunt's No. 4 A. G. Johnson, C NE NW Sec. 14-10-3. Set 10¾-in. csg. 617 ft.; drlg. 3,572 ft.

Hill & Hill's No. 1 W. A. Montgomery, C SE SW SE Sec. 24-12n-2e. Set 10¾-in. csg. 920 ft.; drlg. 3,512 ft.

Sells Pet. Co.'s No. 1 Falkner, C SE NE Sec. 34-9n-4w. Set csg. 1,640 ft.; drlg. bl. sh. 5,337 ft.

Slick-Urschel Oil Co.'s No. 6 T. B. Slick, SW cor. SE Sec. 35-10-3. Woodruff sd. 4,800-17 ft.; set 7-in. csg.; W.O.C.; T.D. 4,817 ft.

C. L. Thompson, Rowan & Hope's No. 1 Joe Elliott-Mrs. Mary Edwards, 900 ft. S. 2,310 ft. W of NE cor. Sec. 30-10n-3w. Set surf. csg.; W.O.C.

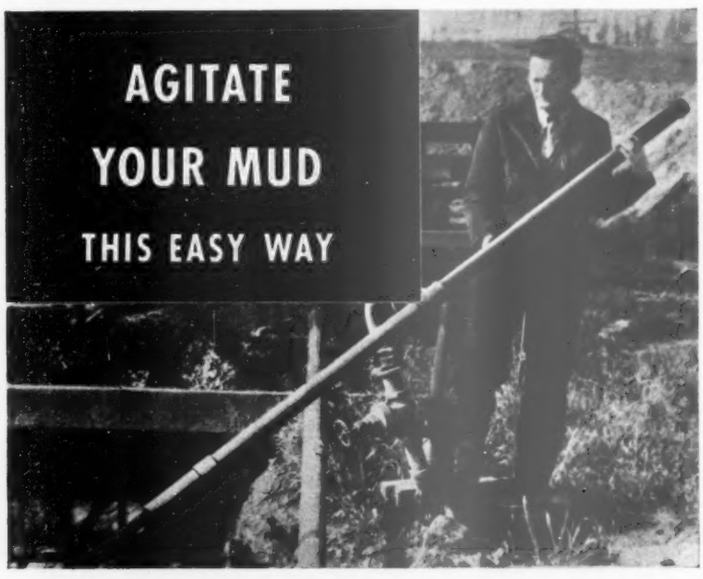
Union Prod. Co.'s No. 11 Stevens, 1,040 ft. SW cor. Sec. 12-10-3. Set 10¾-in. csg. 606 ft.; W.O.C.

Union Prod. Co.'s No. 16 J. Stevens, C NE NE Sec. 12-10-3. Set 10¾-in. csg. 613 ft.; drlg. 4,875 ft.

Union Prod. Co.'s No. 3 Twiner, C NW NW Sec. 1-10-3. Set 10¾-in. csg. 600 ft.; T.D. 4,937 ft.; Woodruff sd. 4,874-4,902 ft.; set 7-in. csg. 4,868 ft.; swbg. in pits.

Union Prod. Co.'s No. 7 Woodruff, C SE SE 13-10-3. Set 10¾-in. csg. 602 ft.; T.D. 4,261 ft.; Wdrf. sd. 4,831-81 ft.; set. 7-in. csg. 4,820 ft.; drlg. plug.

Whigate Oil Co.'s No. 2 Robertson, S½ NW SE Sec. 20-10-3. Drlg. 4,366 ft.



PATTERSON-BALLAGH

SAFETY MUD GUN

For spraying rotary drilling mud conveniently and with safety, the Patterson-Ballagh Mud Gun meets every need. The company operating the above gun uses five on one well. This gun can be locked in any desired angle. Only one man needed to operate. Can be swung back and forth, up or down. Heavy cast steel, long swing ell. Hydraulically-packed glands. Rubber nozzles also available. Ask for Catalog or see Composite Catalog.

PATTERSON-BALLAGH CORPORATION

General Offices and Plant: 1900 E. 65th St., Los Angeles, Calif.

Mid-Continent Office: 1506 Maury Street, Houston

New York City Office: 92 Liberty Street.

CRUDE-OIL PRICES IN REPRESENTATIVE FIELDS

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the June 6 issue. All changes in crude-oil-price schedules will be published completely in the first issues following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, Louisiana	1.03
Smackover, Arkansas, heavy	.73
Illinois basin	1.05
Pecos County, Texas	.78
Lance Creek, Wyoming	.77
Bradford, Pennsylvania	2.50

Gravity Schedules

Top prices include all gravities above grades designated, and low prices include all gravities below grades designated:

	Signal Hill, California*	Oklahoma, Kansas	Gulf Coast Texas
14-14.9	$.065	....	....
15-15.9	.65	....	....
16-16.9	.65	....	....
17-17.9	.65	....	....
18-18.9	.65	....	....
19-19.9	.69	....	$0.86
20-20.9	.73	$0.70	.88
21-21.9	.78	.72	.90
22-22.9	.82	.74	.92
23-23.9	.86	.76	.94
24-24.9	.90	.78	.96
25-25.9	.95	.80	.98
26-26.9	.99	.82	1.00
27-27.9	1.03	.84	1.02
28-28.9	1.07	.86	1.04
29-29.9	1.10	.88	1.06
30-30.9	1.14	.90	1.08
31-31.9	....	.92	1.10
32-32.9	....	.94	1.12
33-33.9	....	.96	1.14
34-34.9	....	.98	1.16
35-35.9	....	1.00	1.18
36-36.9	....	1.02	1.20
37-37.9	....	1.04	1.22
38-38.9	....	1.06	1.24
39-39.9	....	1.08	1.26
40-40.9	....	1.10	1.28

*Effective February 1, 1940.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1940 High	1940 Low	Week ended June 8 High	Week ended June 8 Low	Week ended June 8 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1938	Com. sh. earn. 1937	1939 High	1939 Low	1938 High	1938 Low
58½	38½	41	40	41	Amerada Corp.	788,675	N.P.	50cQ	4-30-40	$2.00	$2.07	$3.04	74½	50	78	55
27⅛	18¼	20¾	19¼	20⅜	Atlantic Refining	2,663,999	$25	25cQ	6-15-40	1.00	1.40	3.51	24¾	18⅛	27⅜	17¾
16⅝	8½	9½	9	9⅜	Barber Asphalt Co.	390,223	$10	25c	5-21-40	.25	—.85	1.91	21	10¼	23¾	12⅛
13⅜	7⅜	8½	7⅞	8⅜	Barnsdall Oil Co.	2,558,779	$5	15c	6-8-40	.90	1.26	.85	19½	11⅛	21⅜	10⅛
8⅛	5½	6¼	5⅞	6⅛	Consolidated Oil Corp.	13,751,726	N.P.	20cQ	5-15-40	.80	.55	1.48	9⅞	6½	10¾	7
25	16¾	18⅝	16¾	17⅛	Continental Oil of Delaware	4,682,572	$5	25cQ	3-25-40	1.00	1.10	2.98	31½	19⅞	35¾	21⅛
6⅞	3⅜	4	3⅝	3⅝	Houston Oil	1,098,618	$25	....	10-17-30	....	.83	.94	9⅜	4½	9¾	5
14⅜	9	9¾	9	9¾	Lion Oil Refining	435,815	N.P.	25cQ	4-20-40	1.00	2.09	2.17	18⅛	10	25⅛	15⅝
17⅜	11½	13	12½	13	Mid-Continent Petroleum	1,857,912	$10	40c	6-1-40	.60	.56	2.86	18	11⅜	22⅝	12¼
11	7⅛	7⅝	7½	7½	Mission Corporation	1,378,645	$10	40c	12-15-39	.65	1.04	1.31	14⅞	8¾	17¾	10⅝
9¾	4⅝	5⅝	5	5¼	National Supply	1,155,517	$10	....	12-22-37	....	—.79	4.90	15½	5⅝	23	12⅛
8¾	5¾	6	5¾	5¾	Ohio Oil Co.	6,563,377	N.P.	20c	6-15-40	....	.25	1.30	10½	6	14⅞	8⅜
8¼	5¾	5⅞	5¾	5⅞	Pacific Western Oil	1,000,000	N.P.	40c	12-19-39	.40	1.22	1.39	11⅞	7	15⅞	10¼
8⅞	6¾	8⅞	8¼	8⅞	Pan American Pet. Trans.	4,702,945	$5	....	12-31-37	....	.08	1.18	8¾	5	9¼	6¼
41¾	27⅛	30¼	27¾	30	Phillips Petroleum	4,449,052	N.P.	50cQ	6-1-40	2.00	2.03	5.42	46½	31¼	44⅝	27¼
22¾	15	16⅜	15½	16	Plymouth Oil Co.	1,038,633	$5	35cQ	3-30-40	$1.40	2.59	2.85	24	17⅛	25⅜	15
11½	7	7⅝	7	7½	Pure Oil Co.	3,982,031	N.P.	25c	12-20-39	.25	.38	2.15	11¾	6¼	13½	8¼
8⅜	5⅞	6⅞	6⅜	6¾	Richfield Oil Corp.	4,010,000	N.P.	50c	12-18-39	.50	.51	.35	10¼	6⅝	9⅞	5
20	11	12⅞	12½	12½	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	6-15-40	1.00	1.52	1.97	24⅜	15½	27½	15½
13⅛	7⅝	8¼	7⅝	8	Shell Union Oil	13,070,625	N.P.	25c	12-20-39	.50	.72	1.44	17¼	9⅞	18⅝	10
23¼	12¼	13⅜	12¼	13¼	Skelly Oil	995,349	$15	25c	1-30-40	.75	2.27	6.07	29½	15½	34⅜	18½
12½	7⅛	8	7½	7⅞	Socony-Vacuum	31,206,071	$15	25cSA	3-15-40	.50	1.29	1.82	15½	10¼	16⅜	10⅜
26⅛	17⅜	18¼	17¾	18¼	Standard Oil of California	13,003,953	N.P.	25cQ	3-15-40	1.10	2.22	3.17	33⅝	24¼	34⅞	25⅛
29	20¾	22⅛	20⅞	21¾	Standard Oil (Indiana)	15,272,020	$25	25c	6-15-40	1.25	1.82	3.66	30	22⅜	35½	24⅝
46½	29⅞	35⅜	29⅞	35	Standard Oil of New Jersey	27,280,998	$25	1.00†	6-15-40	1.25	2.86	5.64	53½	38	58⅜	39⅝
65⅞	47	50¼	49	49	Sun Oil	2,434,863	N.P.	25c*	6-15-40	1.00	1.07	3.86	66	45⅝	65⅛	45
2½	1¼	1½	1⅜	1⅜	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	....	.24	.32	3⅜	1¾	4½	1¾
47⅝	33	36¼	33½	35	Texas Corp.	10,876,139	$25	50cQ	4-1-40	2.00	2.13	5.02	50⅜	32½	49⅝	32⅝
4¼	2½	2¾	2⅝	2¾	Texas Gulf Producing Co.	888,146	N.P.	10c	6-15-40	.20	.86	.68	5¾	3¼	5⅞	2⅝
8⅝	5½	6	5½	6	Texas Pacific Coal & Oil	888,236	$10	10c	6-1-40	.40	1.16	1.11	11⅝	7	12½	7
12	8¾	9¼	8¾	9⅛	Tide Water Associated	6,371,827	$10	25c	6-1-40	.80	1.28	2.08	14¼	9½	15¾	10⅛
17½	12	12¼	12	12⅛	Union Oil Co. of California	4,666,270	$25	25c	5-10-40	1.05	1.47	2.58	19⅜	15⅛	22½	17⅛
29⅞	22¾	25⅛	24½	24½	Union Tank Car Co.	1,177,381	N.P.	45c	6-1-40	1.30	1.16	1.70	24¼	20⅛	23½	20
3⅝	1⅞	2⅛	2	2⅛	Wilcox Oil & Gas	470,768	$5	10c	2-15-40	....	.52	.24	4¼	2⅜	3½	1⅝

*Also 5 per cent in stock. †Includes extras. ‡Also 2 per cent in stock. §Also 4 per cent in stock. ‖Also 2½ per cent in stock. ¶Also 1⅛ per cent in stock. —Deficit.

New York Curb Exchange

1940 High	1940 Low	Week ended June 8 High	Week ended June 8 Low	Week ended June 8 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1938	Com. sh. earn. 1937	1939 High	1939 Low	1938 High	1938 Low
10¾	5	5⅜*	5⅜	5⅝	American Republics Corp.	1,308,049	$10	10c	7-11-38	....	—$0.22	$0.27	11⅜	5½	11⅜	5
3¼	1⅜	1⅝	1½	1½	Bridgeport Machine Co.	263,700	N.P.	$1.25	12-30-37	....	—.14	1.90	7¼	2½	10¼	4⅜
43	28	33⅞	33⅞	33⅞	Buckeye Pipe Line Co.	200,000	$50	$1	6-15-40	$2.50	2.36	4.02	34¾	26½	39	22½
117	95	95	95	95	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	6-24-40	6.00	5.32	6.73	130	108⅝	128	97
6¾	4	4⅞	4⅜	4⅝	Cities Service (new)	3,703,978	$10	....	6-1-32	....	.23	1.02	9¼	4¼	11	5⅛
2⅛	1⅛	1½	1⅜	1⅜	Cosden Petroleum	465,332	$1	....	.....	....	....	.19	2¼	½	2⅜	⅞
24¼	14¼	15¾	14¼	15¾	Creole Petroleum	6,974,356	$5	50cSA†	6-15-40	1.00	1.64	1.61	28	16¾	27½	17½
4⅜	2⅞	..	..	..	Darby Petroleum	351,390	$5	25cSA	1-15-39	.25	....	1.36	7⅛	3⅝	10¼	5½
2	1¼	..	..	..	Derby Oil & Refining	263,162	N.P.	....	.....	....	—.91	1.34	2⅝	1½	3½	1½
31	23½	..	..	..	Eureka Pipe Line	50,000	$50	75c	5-1-40	2.00	—.37	—.12	23	15⅜	31	16
39⅞	25¼	26¾	25¼	25½	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-40	2.00	1.43	3.51	45⅛	29¼	46⅞	33
68	47⅛	51½	49	50	Humble Oil & Refining	8,987,840	N.P.	62½c	7-1-40	2.00	3.98	5.22	71	52½	72⅝	56
12⅜	5⅝	6⅞	6¼	6¾	Imperial Oil of Canada	26,965,078	N.P.	37½c†	6-1-40	1.00	.96	.98	17	11⅜	19½	14⅛
7⅜	5¾	6½	6½	6½	Indiana Pipe Line	300,000	$7.50	10c	5-15-40	.50	.47	1.03	7¼	5½	9⅜	6
19¾	9¼	10⅛	9¼	10⅛	International Petroleum	14,324,088	N.P.	75c	6-1-40	1.75	1.98	....	27½	17	31¼	21
2⅜	2	..	..	..	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	....	.14	.17	3¾	2⅛	5	2⅛
10¾	7⅝	8½	8⅛	8½	Lone Star Gas	5,518,347	N.P.	20c	4-22-40	.70	.88	1.14	10½	7⅛	10⅝	6⅝
6¼	3¾	4¼	4	4	Louisiana Land & Exp.	2,966,762	$1	10c	6-15-40	.35	.45	.58	7⅝	4	9⅜	6⅛
17	14½	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	7-10-40	1.00	2.28	3.26	17	14½	24	16
8½	6½	6⅝	6⅝	6⅝	Midwest Oil Co.	998,474	$10	45c	6-15-40	.90	.93	1.14	8⅝	6⅝	9⅜	6⅝
6¼	4⅞	5	4⅞	5	Mountain Producers	1,593,584	$10	30cSA	6-15-40	.60	.62	.76	6	4⅞	5¾	4½
13⅛	10⅛	10⅞	10¼	10⅜	National Fuel Gas	3,810,183	N.P.	25cQ	4-15-40	1.00	.84	.96	14	11¼	14⅝	11½
12½	8¾	9¼	9¼	9¼	National Transit	509,000	$12.50	50c	6-15-40	.85	.88	1.19	9½	7¼	9¼	6½
1¼	1	..	..	..	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	1⅜	1	2⅝	1½
7¾	5¾	6	6	6	New York Transit	100,000	$5	25c	4-15-40	.40	.16	.49	6	4	4½	3½
9⅞	6	7½	7½	7½	Northern Pipe Line	120,000	$10	40c	6-1-40	.30	.24	.78	7	4½	6	4
5½	2½	3	2½	2⅝	Pantepec Oil	2,856,872	$1	....	.....	....	....	....	7⅝	4	7⅜	3½
3¼	1½	1⅝	1⅜	1⅜	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.17	—.17	5	1¼	4½	1⅝
2½	1½	1½	1½	1½	Ryan Consolidated	298,931	N.P.	....	.....	....	.29	.46	3	1⅞	4	2¼
11⅜	4⅞	8¼	7⅜	7⅜	Southern Pipe Line	100,000	$10	15c	3-1-40	.30	—.27	.85	4⅞	3½	5⅛	3¼
44	28	33	32	33	South Penn Oil	1,000,000	$25	37½c	6-28-40	3.00	1.44	4.64	40½	26⅜	39	28⅜
35	22	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	$5	7-1-40	2.00	—.41	.95	23	18	22¼	16½
20⅞	16½	17⅛	17	17⅛	Standard Oil of Kentucky	2,604,790	$10	25c	6-15-40	1.30	1.45	1.60	20½	17¼	18⅜	15
41¾	26¼	28½	28	28½	Standard Oil of Ohio	753,740	$25	25c	6-15-40	1.50	1.81	3.67	32¾	17	22⅜	16¼
2	1½	1½	1½	1½	Sunray Oil	1,975,876	$1	5c	5-1-40	.10	.23	.42	2⅜	1⅜	3¼	2
2⅜	2	..	..	..	Texon Oil & Land	936,024	$2	10c	3-29-40	.10	.56	.51	4	2⅝	5¼	3⅛
3⅜	2	2½	2⅜	2½	Transwestern Oil Co.	750,000	$10	....	.....	....	—.12	.48	6	2½	7⅝	4¼
2⅛	⅛	1⅛	1	1	United Gas Corp.	7,818,959	$1	....	.....	....	—.51	.25	3⅜	1½	5¼	2⅝

†Includes extras. —Deficit.

Personal Paragraphs

GEOFFREY LLOYD, formerly British secretary of mines, has been appointed secretary of petroleum, marking the first time in English history that a separate ministry for oil has existed.

R. HOUSTON FOSTER, vice president and general counsel of Landreth Production Corp., Fort Worth, Tex., was elected president of the board of trustees of Texas Christian University in Fort Worth. He graduated from the university in 1904 when it was located at Waco, Tex. A member of the board since 1932, he succeeds the late Van Zandt Jarvis, who died at his ranch north of Fort Worth on April 18. E. A. LANDRETH, president of Landreth Production Corp., has been appointed to Mr. Foster's place on the board.

LEWIS FITCH, junior engineer for Stanolind Oil & Gas Co., formerly in the district office at Hobbs, N. M., has been transferred to the company's division offices at Fort Worth, Tex.

DESAIX B. MYERS, chief economic geologist, and WALTER W. HEATHMAN, geologist in the exploration department of Union Oil Co., have returned to their respective offices in Los Angeles after an absence of a month spent in connection with company business.

W. M. COGEN, geologist for Shell Oil Co., Inc., at Houston, Tex., delivered a paper on "Comparison of Heavy Mineral Zones With Faunal Horizons in Louisiana Gulf Coast Cenozoic Sediments" before the Houston Geological Society last week.

GEORGE H. METTAM, manager of the Bayonne refinery of Standard Oil Co. of New Jersey (Delaware), has been appointed assistant general manager of the company, and Harry G. Burks, Jr., has become assistant to the president. Mr. Mettam will continue in charge at Bayonne and maintain his office there.

W. T. NIGHTINGALE, Rocky Mountain geologist, who has served the past 11 years as chief geologist for the Mountain Fuel Supply Co., has been elected vice president of the firm. He will retain his headquarters in Rock Springs, Wyo., and will continue in charge of the geological department for the company, which he joined in 1929. He carried on geologic exploratory work for 4 years in southern Asia, particularly Kashmir and British India, with headquarters in London.

M. K. KAYE, chief geologist for Caracas Petroleum Co., sailed from New York June 6 en route to Venezuela.

JAMES PARKER, formerly in Arrow Drilling Co.'s West Texas office at Odessa, Tex., is head of the company's recently opened office in Fort Worth, Tex., in the Neil P. Anderson Building.

ROBERT S. LYTLE, former World War pilot and at present developing considerable acreage in the Southeast Coalinga field of Fresno County, California, has been elected a member of the board of directors of the newly organized Manta Aircraft Corp., which will produce an advanced type of long-range fighting and bombing plane.

E. L. ESTABROOK has established an office at Cassetta Postale 1308, Milano, Italy, which temporarily replaces that maintained at The Hague by Ralph Bolton, manager of European producing operations for Standard Oil Co. of New Jersey subsidiaries. Mr. Estabrook is now in New York on a business visit.

PHIL K. COCHRAN, formerly division geologist with Carter Oil Co., Wichita, Kans., has been named chief geologist with the Standard Oil Co. of Louisiana. He succeeds WALTER K. LINK, who will leave for New York July 1 prior to taking up his new duties as chief of exploration for Standard Oil Co. of New Jersey in Central America and the West Indies. Mr. Link will operate out of Panama.

W. R. LINK *P. K. COCHRAN*

DAN CAMERON, scout for Carter Oil Co. at Saginaw, Mich., has been transferred to Jackson, Miss.

ALFRED P. FREY, with Bataafsche Petroleum Mij. in The Hague, is returning to the United States.

URBAN HUGHES, consulting geologist of Jackson, Miss., recently addressed members of the South Louisiana Geological Society in Lake Charles on "Geology in Mississippi," and has been invited to speak on the same topic at future meetings of the Shreveport and Houston Geological societies.

WALTER H. KOKERNOT, JR., formerly of Alpine and Houston, Tex., has joined the Oil and Gas Division of the Texas Railroad Commission with headquarters in Kilgore, Tex. For several years he was connected with Humble Oil & Refining Co. in Houston, Tex., in the geologic and land departments. Since leaving Humble he has been connected with his father W. H. Kokernot, in the ranching business in West Texas.

J. J. FROMMER, formerly general superintendent of production for Ohio Oil Co., at Houston, Tex., has been named general superintendent for the company in the Shreveport, La., district. Replacing Mr. Frommer in Houston will be GLENN BISH, one time employe of the Ohio at its Haynesville gasoline plant. Mr. Frommer is a native of North Baltimore, Ohio. He began his career with Ohio in 1912 at Bridgeport, Ill. Later he was sent to Ranger, Tex., then to Stephens County, Oklahoma, as district foreman and in May 1927, was transferred to Pecos County, Texas, then to Oklahoma and to Houston.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

In the Cushing field, where the air is filled with gas, a tank builder, in hitting a nail with a hammer, caused a spark, and an explosion followed. The carpenter was seriously burned.

Oil-country hauling gets tough in Wyoming. It took a team of 26 horses to pull a load of oil-well machinery from Casper to a well site.

Gasoline in Texas retails for 13 cents per gallon. The crude from which it is made sells for 40 cents per 42-gal. barrel at the well.

20 YEARS AGO

A Tulsa oil producer who is getting $3.50 a barrel for his product was heard to bitterly complain because new potatoes cost him $1.80 a peck.

Col. A. E. Humphreys, of Denver, Colo., prophesies that Arkansas will some day provide one of the world's biggest oil fields. At present no oil is being produced in that state.

The home of the late T. N. Barnsdall in Pittsburgh, Pa., with its 10 acres of grounds, is purchased by Charles J. Holman for $155,000.

10 YEARS AGO

The Gulf Oil Corp. will lay a 10 and 12-in. pipe line from a point near Tulsa to Pittsburgh, Toledo, and Cincinnati. It will have a capacity of 35,000 bbl. of crude oil per day.

The Ohio Oil Co. has completed an agreement for the acquisition of the Transcontinental Oil Co. through an interchange of stock. The Ohio company will give four-sevenths of a share of its stock for one full share of Transcontinental stock. The consolidation will advance the Ohio Oil Co. to third in production in Texas, exceeded only by Humble Oil & Refining Co. and Gulf Production Co.

HENRY DeARMAN, independent operator of Houston, Tex., is residing in Mississippi during drilling operations which he has contracted in the state.

ALBERT E. LANDSITTEL, sales manager, Globe Oil & Refining Co., has returned to his desk in Wichita, Kans., from a 3 weeks' trip in Havana and Panama Canal Zone to recuperate from a serious automobile accident in February.

J. RAYMOND CARRINGER has been appointed general manager of manufacturing operations and elected a director of the Standard Oil Co. of New Jersey (incorporated in Delaware), succeeding Chester F. Smith who has been elected president of the company.

H. H. HOWELL, independent operator of Corpus Christi, Tex., who opened the first Frio-Vicksburg production in Jim Wells County and started an extensive wildcat-drilling campaign which resulted in several discoveries in the county, opened another new field in the county the past week.

A. M. CROWELL, director of the Arkansas Oil and Gas Commission, and COL. T. H. BARTON, president, Lion Oil Refining Co., are serving on the committee of Gov. CARL E BAILEY of Arkansas to prepare data on natural resources in the state as regards the national-defense program.

DONALD E. FUELLHART has obtained a leave of absence from the Louisiana Department of Conservation to work out preliminary engineering details with Brokaw, Dixon & McKee, consulting engineers of New York City, on the proposed Louisiana-to-Tennessee gas line of the Tennessee Gas & Transmission Co. of Chattanooga, Tenn.

Busy? Well, Take a Look

The record shows that W. S. Morris, elected chairman of the new East Texas chapter of the American Institute of Mining and Metallurgical Engineers, is a busy man. Yes, and he was a busy boy. He worked his way through the University of North Carolina by drafting, surveying, selling trinkets to classmen, waiting on table, running a college movie, etc., and then, so he wouldn't get soft, doing summer work for the state Highway Commission.

W. S. MORRIS

Joining the Empire Gas & Fuel Co. as a junior engineer in 1924, young Morris — always known as "Buck"—packed a tremendous amount of experience into 2 years. Then he served as a petroleum engineer at the Petroleum Experiment Station of the U. S. Bureau of Mines in Bartlesville, Okla. During this period he wrote important reports of investigations. In 1929 he was engaged as a petroleum engineer by the Indian Territory Illuminating Oil Co., Bartlesville. He plunged into the study of proration plans in Oklahoma, minimum allowables, water allowables, methods of taking potentials, casing programs, gas conservation, well spacing, and so on. To guard against the evils of excessive leisure he entered the Central Oklahoma School of Law and was admitted to the bar in 1935.

In 1936 Mr. Morris was made field chairman of the East Texas Engineering Association, and since that time he has addressed himself to the multitude of petroleum engineering problems of that area. He married Mary L. Holmes, Tulsa, and they have one son. He confesses to two weaknesses, golf and fishing. The Morris home is in Kilgore, Tex.

O. N. GAMMILL is in charge of the new Mississippi geological and land office recently opened by Stanolind Oil & Gas Co. in Jackson.

DEWEY WAGGONER, drilling superintendent for Murrey & Griffey, drilling contractors, has moved to Jackson, Miss., from Paris, Tex.

F. H. HARRELL, who heads exploration for Midstates Oil Corp. in the Shreveport, La., division, is convalescing after a serious automobile accident in South Arkansas.

J. L. (LUKE) NIX, formerly of Odessa, Tex., has moved to Wichita Falls, Tex., where he is in charge of the district office opened last week by P. W. APPLEBY, well cleanout and drilling-in contractor of Odessa.

A. A. HOLSTON, district geologist with Stanolind Oil & Gas Co., has been transferred from the Shreveport, La., district to Jackson, Miss., where he holds the same position. He is succeeded in Shreveport by S. C. GIESEY of the Shreveport division.

JOHN MADDOX, district land man for Cities Service Oil Co. in the West Texas district, is being transferred from Odessa to Amarillo, Tex., where he will assume like duties in the Panhandle area. PAUL SCHAEFER, land man formerly in the company's Mount Pleasant, Mich., office, will take over his former duties.

DR. GUSTAV EGLOFF, director of research of Universal Oil Products Co., has received another honor, the degree of Doctor of Science, conferred upon him by Armour Institute of Technology on June 6 in recognition of his outstanding contributions in the field of petroleum refining—particularly the development of the cracking process. His work has been crystallized in some 250 patents and a great number of published scientific papers and in several books.

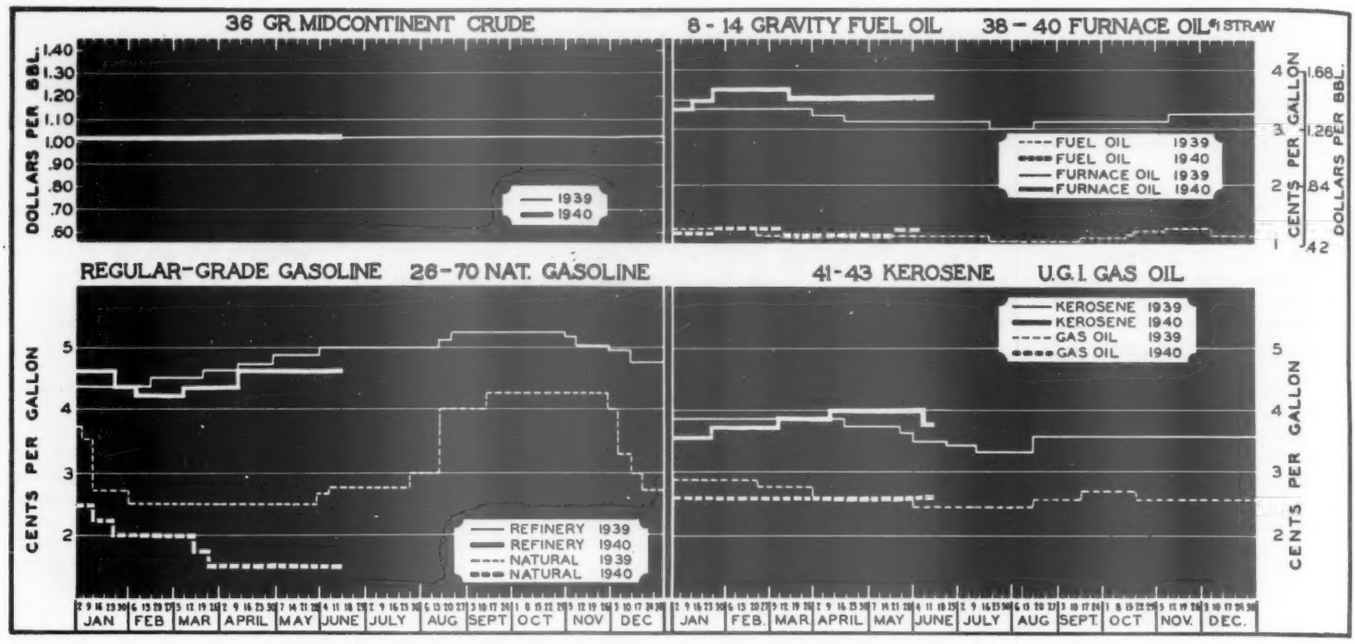
Shifts: OWEN A. WINSOR, junior engineer, Gulf Oil Corp., from Hobbs, N. M., to Maud, Okla.; VICK E. BAUM, superintendent, Ryan Consolidated Petroleum Corp., from Pampa, Tex., to Winfield, Kans.; KATHERINE RYAN, president, Dolores Oil Corp., from San Antonio, Tex., to Cleburne, Tex.; F. C. HENDERSON, president, Agua Dulce Co., from Palm Beach, Fla., to San Antonio, Tex.; PERRY E. DAVIS, superintendent, Parker Drilling Co., from Sandoval, Ill., to Carmi, Ill.; E. I. HEAD, engineer, Gulf Oil Corp., from Greenwood, Miss., to Grenada, Miss.; W. M. BILLS, engineer, Sun Oil Co., from Laurel, Miss., to Carthage, Miss.; LEO W. KONZ, engineer, Carter Oil Co., from Meridian, Miss., to Gettysburg, S. D.; J. S. WALTON, engineer, Standard Oil Co. of New Jersey, from Westfield, N. J., to Standard Oil Development Co., Elizabeth, N. J.; JAMES F. GIBLIN, Atlantic Oil Producing Co., from Philadelphia, Pa., to Havana, Cuba; ED NORTON, manager, British American Oil Co., from Wichita, Kans., to Hutchinson, Kans.; JOHN O'BRIEN, engineer, Texas Co., from Cut Bank, Mont., to Fellows, Calif.; R. W. McCANNE, geologist, Ohio Oil Co., from McFadden, Wyo., to Casper, Wyo.; J. J. ZORICHAK, engineer, Stanolind Oil & Gas Co., from Talihina, Okla., to Tulsa; H. W. CAMP, manager, Cities Service Oil Co., from Tulsa to Bartlesville, Okla.; V. V. JACOMINI, Standard Oil Co. of Australia, Ltd., from Sydney, Australia, to Refinery Engineering Co., Los Angeles, Calif.

W. G. HUBERT, a member of the Gulf Oil Corp.'s personnel at Maracaibo, Venezuela, is spending his vacation in southern California and will remain in Los Angeles for several weeks.

G. F. PUTNAM, research development department Standard Oil Co. of California, San Francisco, attended the coating tests conducted at Stanolind Pipe Line Co.'s line near Skiatook, Okla., last week. Among those in attendance at the tests were B. L. COREY, protection engineer, pipe line division, Socony-Vacuum Oil Co., Wichita, Kans., T. F. P. KELLY, Barrett Co., New York, A. E. LETTS, research department, Skelly Oil Co., Eldorado, Kans., V. V. KENDALL, National Tube Co., Pittsburgh, Pa., C. F. GUINN, superintendent, Tidal Pipe Line Co., Tulsa, and L. S. SPENCER, Standard Asbestos Co., Houston, Tex.

COL. ERNEST O. THOMPSON, member of the Texas Railroad Commission, was presented an honorary degree of doctor of laws at the Texas Technological College at Lubbock, Tex., last week.

M. L. ARNOLD, Richfield Oil Corp.; J. C. BURKS, O. C. Field Gasoline Corp.; L. V. CASSADAY, Lomita Gasoline Corp.; C. E. COLESTON, Belridge Oil Co.; F. E. COYLE, Tide Water Associated Oil Co.; EARLE DERBY, Standard Oil Co.; O. C. FIELD, O. C. Field Gasoline Corp.; C. D. GARD, Union Oil Co.; J. C. GILBERT, Signal Oil & Gas Co.; W. A. KIRK, California Southern Oil Co.; W. H. KRAFT, Honolulu Oil Corp.; A. C. LYLES, Kettleman North Dome Association; R. S. LYTLE, Los Nietos Producing & Refining Co.; G. C. McLAREN, Standard Oil Co.; WILLIAM MOELLER, JR., Southern California Gas Co.; H. E. MOULTON, Chanslor-Canfield Midway Oil Co.; N. H. MULL, Texas Co.; H. M. PAULSON, Bankline Oil Co.; TOM L. TAGGART, Standard Oil Co.; J. A. CAMPBELL and JOHN ROGERS were elected members of the board of directors of the California Natural Gasoline Association for a two-year term at the annual election of officers held June 8.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Kerosene and Lubes Sick in Group 3 Market; Gasoline Convalescent

By T. F. SMILEY

THE Group 3 gasoline market gave further evidence of convalescence this week, though it was still mighty sick. Its more favorable aspects were not just a bit of cheerful psychology either. The first scattering vacationists were heading for resorts. Thousands of students were on their way home from school. The baseball season was packing the parking space around stadiums in every corner of the country. Bus lines, local and intercity, were expanding their service. Although heavy rainfall was reported in various areas, pleasant skies prevailed generally, bringing streams of cars out onto the highways. All of which meant increased consumption of motor fuel and lubricating oils.

Changed Feeling About Stocks

There was a change in feeling too about the huge overaccumulation of gasoline. Just what part the nation's stupendous defense program will play in reducing the staggering burden of stocks is a matter of speculation, but it is nothing to be brushed lightly aside. Government plans call for construction of 50,000 airplanes and the training of aviators to operate them. Those planes will consume immense quantities of gasoline even though they never are called upon to repel an invading enemy. Airships used for training purposes must have fuel and oil.

Announcement that 17 commercial air lines had increased their mileage 32 per cent in the first 4 months of 1940 over that in the comparable period of 1939 was significant of the rising demand that this method of transportation is making on oil refiners.

Complacency over the outlook suffered a jar, however, when American Petroleum Institute figures revealed that in the week ended June 1 the nation's gasoline stocks, instead of recording the emphatic decline that was needed, rose 56,000 bbl. Adding to the discomfort of Group 3 refiners was the fact that while Gulf Coast inventories dropped 270,000 bbl. and East Coast 15,000, Mid-Continent stocks rose 173,000 bbl. This increase, along with California's addition of 239,000 bbl., spoiled the statistics for the week.

Refiners generally reported either active spot buying or brisk orders for shipments on contract. With the prospect of a half cent a gallon added to the federal tax on both gasoline and lubricating oils, jobbers are expected to fill all available storage before the higher tax goes into effect, thus garnering an additional half-cent profit.

Two cargoes of gasoline for oversea or export shipment were being moved from Corpus Christi in the past week. According to reports the French have been buying large quantities of gasoline, particularly aviation grade, but the material remains in storage at the Gulf. Purchases of crude, however, have been shipped to France, presumably to be processed oversea. There was a disposition to regard the gasoline shipments as the beginning of a larger export business.

The effect of the European gasoline purchases thus far on the natural-gasoline market has been inconsequential. The position of the naturals this week showed no improvement.

A deal that had been pending several days, involving the purchase by a major company of 150 cars of regular gasoline out of East Texas and as much more from other areas, was reported to have fallen through early this week.

Lubricants Drop Again

Bright stocks and neutrals lost another cent, but refiners seemed fairly sure the bottom had been reached. Some export business has been coming in and more is in sight. The harvesting season, delayed this year, is expected to be of substantial help to the lubricants. Wax was holding.

There was a marked increase in offerings of kerosene, range oil, and water-white distillate. Prices weakened. Kerosene, which a month ago was conspicuously tight, ran into trouble during the past week and was obtainable for a quarter cent less than the quotations that formerly prevailed. All the furnace distillates were easier. The softer market extended to the tractor fuels.

Refined Oil Market Barometer

Gasoline remains weak, though seasonal rise in consumption and slightly increased export movement from the Gulf have imparted a faintly better tone. Kerosene and range oil losing ground, and all light fuels softer. Heavy residual fuels in stronger position. Bright stocks and neutrals in Mid-Continent territory dropped a cent. Natural gasoline shows no improvement.

MID-CONTINENT. Gasoline steadier. Lubricating oils down. Kerosene and light fuels soft.

EAST COAST. Gasoline demand up, but prices unchanged. Heavy fuel firm. Heating oils decline.

GULF COAST. Weakness of gasoline acute. Kerosene and fuel oils weak. Lubes steady.

PENNSYLVANIA. Slight improvement in gasoline. Kerosene, wax weak. Lubes unchanged.

CALIFORNIA. Distress stocks weaken gasoline. Gas oil and kerosene less plentiful.

CHICAGO. Moderately better tone in gasoline. Kerosene and tractor fuels steadier.

Increasing Demand Stimulates Motor-Fuel Market in East

By H. STANLEY NORMAN

NEW YORK, June 11.—Motor-fuel consumption on the northeastern coast moved into summer stride last week as the area experienced its first heat wave of the season. Record crowds swarmed to the New York World's Fair, to summer resorts, beaches and other spots. Under the stimulation of higher consumption, tank-car, tank-wagon and retail motor-fuel prices in this section of the country held former positions.

The lag in demand, however, was reflected in a report that two cargoes of motor fuel had been sold on the Gulf Coast for export movement at 4 cents per gallon. Most Gulf suppliers said they could not consider business at less than the quoted market low of 4¼ cents, but the pressure of accumulating stocks is known to be working a distinct hardship at certain coastal plants.

There is nothing in the market to indicate an early change in the dormant export demand. The French Navy has not yet closed, so far as United States refiners know, on the contemplated purchase of 1,450,000 bbl. of fuel oil. The recent decline in prices for light-fuel-oil products may be influencing the French to delay actual placement of the business until developments show whether the residual material will drift into lower marketing ground.

Reports in New York are that the residual-fuel market is in reasonably strong position. A sale of bunker oil on the Gulf at 80 cents per barrel last week was reported and this figure is in line with the quotation of sellers. Refiners feel they can afford to take a long position on residual stocks in view of the demand prospects which are closely related to expansion of industrial activity necessary to meet the defense preparation program.

Western Pennsylvania refiners reported an improvement in demand for dark cylinder oils. This may be the first tipoff of the increase to come in consumption of industrial types of petroleum products. Normally, the first improvement in domestic demand is reflected in the lubricating-oil market with other petroleum products following at intervals of 30 to 60 days. Due to the tardy development of the summer motoring-weather conditions this year, jobbers in this area are not in position to take complete advantage of the proposed federal gasoline-tax increase. Tanks of jobbers are relatively well filled. Preparations were made in February and March to meet the summer motoring requirements which normally develop during the middle of April or May 1 at the latest.

Light fuel oils are still losing ground on the low side of the market. Kerosene is available in tank cars in the New York market at 5½ cents, although some sellers continue to ask as much as 6 cents per gallon. The gas-oil and No. 2 fuel-oil prices have also slipped on the low side, but there is comparatively little of this material moving currently. No. 2 fuel oil is quoted in the New York tank-car market at 4.7 to 5 cents per gallon, but these prices might be shaded slightly in some quarters because of another slump on the Gulf Coast. Refiners on the Gulf continue to quote a minimum of 3½ cents per gallon, but traders here believe a firm bid of 3⅝ or possibly 3¼ cents would bring out limited stocks.

Diesel oil on the Gulf cargo market is quoted at a range of 3⅜ to 3¾ cents, depending upon the index specifications, but the coastwise movement at the present is largely confined to gasoline, heavy fuel oils and lubricants.

Reports from the Gulf that several foreign tankers were scheduled to arrive at Texas and Louisiana ports during the next few days for June loading attracted no particular interest in the trade here. It was pointed out that tankers sailing under Allied flags have been moving in this fashion since the outbreak of war and that this appeared to be a periodical call for products covered by previous contracts. There were no inquiries in the open market to indicate that the boats represent new business. Tanker rates for coastwise voyages continue unchanged at a range of 55 cents per barrel for gasoline up to 71 cents for residual fuel and heavy crude. Traders report they would be at a loss as to where to locate bottoms to move more than a small amount of spot business from the Gulf to North Atlantic ports. At least a small amount of American flag tonnage is engaged in moving petroleum from the Gulf to Allied transshipment stations in Canadian waters which lengthens the round-trip time requirements of voyages approximately a week.

Bright stock and neutral lubricating oils held their market position. The demand for dark cylinder material appeared to have more "snap" than did the others. Movement against domestic contracts is reported fairly satisfactory and there has been a recent slight improvement, mostly in export shipments to the scores of small consuming countries.

Wax prices on the Atlantic seaboard and at Pennsylvania refineries are approximately unchanged. A wider margin than normal exists between the high and the low of quotations which may be a reflection of this year's practice of accepting supply contracts on a basis of 6 months rather than for the entire year. A report was current that scale wax had been sold at a western Pennsylvania refinery at 4 cents, which is approximately equivalent to the low of 4⅜ cents quoted on the Atlantic Coast.

Italy's removal of all its merchant ships from the high seas ordered from Rome last Friday is certain to place another plug in the outlet for marine fuel oil. Vessels of the Italian line were ordered into neutral ports, a development which stranded three vessels in New York and one in Philadelphia. The line previously had canceled scheduled sailings of its luxury passenger liners which are held in Italian waters.

Gulf Coast Markets

HOUSTON, Tex., June 11.—There was little change in Gulf Coast refinery markets the past week. The situation growing out of excessive gasoline stocks was becoming more acute. No immediate relief was in sight, although an increase in inquiries was reported. It was reported that two cargoes were moved from Corpus Christi, one shipment to South America and the other coastwise. The price was not available.

It is generally believed that unless relief is received soon several smaller companies with excessive gasoline stocks will be forced to accept almost any offer. Some of the small refiners, especially in the Corpus Christi area, have been operating on reduced crude runs for several months. Some are of the opinion that it would be better to take a substantial loss on stocks in storage than to make another reduction in crude runs inasmuch as the loss of crude connections might prove more disastrous later on.

Further weakening of kerosenes was reported, with material moved at 4⅛ cents compared to 4⅜ to 4½ cents the previous week.

Fuel and burning oils continued weak although no changes in quotations were reported. Quotations on lubricating oils were steady and supplies were said to be in good shape.

A. P. I. Weekly Refinery Statistics

Week Ended June 8, 1940

	Capacity reporting (per cent)	Total gasoline stocks (bbl.)	Residual fuel-oil stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Daily crude runs (bbl.)
East Coast	100.0	23,588,000	8,953,000	8,036,000	577,000
Appalachian	91.0	3,812,000	633,000	335,000	119,000
Ind., Ill., and Ky.	89.5	17,166,000	3,275,000	3,219,000	551,000
Okla., Kans., and Mo.	76.9	7,848,000	2,010,000	1,141,000	287,000
Inland Texas	59.6	1,993,000	1,501,000	285,000	121,000
Texas Gulf	85.3	14,870,000	5,259,000	4,544,000	851,000
Louisiana Gulf	97.6	2,764,000	1,043,000	1,042,000	111,000
N. Louisiana and Ark.	51.5	559,000	471,000	258,000	46,000
Rocky Mountains	55.5	1,578,000	627,000	147,000	56,000
California	87.3	18,238,000	78,679,000	10,167,000	500,000
Total reported	85.1	92,416,000	102,451,000	29,174,000	3,219,000
Est. unreported	.....	7,055,000	2,215,000	1,435,000	381,000
*Est. total	.....	99,471,000	104,666,000	30,609,000	3,600,000
*Est. total previous wk.	.....	100,353,000	104,768,000	29,533,000	3,650,000
*June 9, 1939	.....	83,287,000	111,557,000	28,762,000	3,510,000

*Bureau of Mines.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended June 1, 1940	261,662,000 barrels
Week ended May 25, 1940	259,330,000 barrels
Week ended June 3, 1939	277,947,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of June 11, 1940

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dir.	Incl. tax	Kero. tank wag.
Chicago, Ill.	15.1	13.1	4.0	10.0
Decatur	13.6	12.1	4.0	9.5
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	12.7	4.0	10.0
Quincy	14.9	13.4	4.0	9.8
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	12.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	10.4
Minneapolis	16.5	14.5	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.3
Milwaukee	16.3	14.8	5.0	10.2
Detroit, Mich.	13.6	12.1	4.0	7.6
Grand Rapids	13.2	11.7	4.0	9.0
Saginaw	14.2	12.7	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	14.3	5.0	†10.2
South Bend	16.8	15.3	5.0	†10.2
Fargo, N. D.	17.7	16.2	5.0	11.6
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.9	4.0	8.0
St. Louis*	14.7	12.7	4.0	8.0
St. Joseph	14.4	12.0	4.0	7.9
Wichita, Kans.	13.3	11.6	4.0	7.0

*State tax 2 cents, 1-cent city tax, and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective April 18, 1940, f.o.b. Chicago, tank-wagon prices: Standard heater oil, 1-99 gal., 8.75 cents; 100-149 gal., 7.75 cents; 150 gal. and over, 7.25 cents. Stanolex fuel oil No. 1, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex furnace oil, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex fuel oil A, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex fuel oil B, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex bunker C fuel oil, 1-999 gal., 4.25 cents; 1,000 gal. and over, 3.25 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Cons'r tank wag.	Gasoline Divided dlr.	Incl. tax	Kero. tank wag.
Ohio points	15.5	14.5	5.0	*9.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Incl. tax	Kero. tank wag.
Atl'tic City, N. J.	11.6	12.7	4.0	8.4
Newark	11.6	12.7	4.0	8.4
Annapolis, Md.	13.35	14.35	5.0	9.5
Baltimore	12.75	13.75	5.0	9.0
Cumberland	14.15	16.15	5.0	10.0
Wash'gton, D. C.	11.00	12.00	3.0	9.5
Danville, Va.	14.95	17.45	6.0	11.5
Norfolk	13.75	16.25	6.0	11.0
Petersburg	14.05	16.55	6.0	11.7
Richmond	14.05	16.55	6.0	11.0
Roanoke	15.25	17.75	6.0	11.0
Charles'n, W. V.	14.55	17.05	6.0	12.6
Parkersburg	13.85	15.35	6.0	11.2
Wheeling	14.85	16.75	6.0	11.8
Charlotte, N. C.	16.90	16.50	7.0	11.8
Hickory	17.45	18.95	7.0	12.3
Mt. Airy	17.30	18.80	7.0	12.2
Raleigh	16.65	16.50	7.0	11.5
Salisbury	16.95	16.00	7.0	11.9
Charleston, S. C.	14.75	17.25	7.0	9.25
Columbia	15.60	18.10	7.0	11.5
Spartanburg	16.30	16.80	7.0	12.2

Price basis to Esso1ene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery; 100,000 gal. per year, consumer tank-car price plus 0.5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less 0.5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less 0.5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gal. or more under contract (contract not necessary in Baltimore), except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline Cons'r tank wag.	Gasoline Net dlr.	Incl. tax	Kero. tank wag.
Atlanta, Ga.	17.5	17.5	7.0	11.0
Augusta	17.0	17.0	7.0	10.0
Macon	14.5	14.5	7.0	10.0
Savannah	16.5	16.5	7.0	9.0
Birmingham, Ala.	17.5	17.5	8.0	9.0
Mobile	18.0	18.0	9.0	8.0
Montgomery	19.0	19.0	9.0	9.0
Jackson, Miss.	16.0	16.0	7.0	10.0
Vicksburg	16.0	16.0	7.0	9.5
Jacksonville, Fla.	16.0	16.0	8.0	8.0
Miami	17.0	17.0	8.0	8.0
Pensacola	18.0	18.0	9.0	8.5
*Tampa	21.0	18.0	8.0	8.0
Lexington, Ky.	15.5	15.5	6.0	10.0
Covington	14.5	14.5	6.0	9.5
Louisville	14.5	14.5	6.0	9.0
Paducah	15.5	15.5	6.0	9.0

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

*Temporary discounts to tank-wagon consumers in Tampa 3 cents per gallon below consumer tank-wagon price on Crown gasoline.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Incl. tax	Kero. tank wag.
Albany	11.6	13.6	5.0	8.3
*Met. N. Y.: Manhat., Bronx, Queens, Brklyn., Staten Island	11.7	12.8	5.0	8.5
Buffalo	12.6	13.6	5.0	7.9
Rochester	12.8	13.5	5.0	8.5
Syracuse	12.2	13.4	5.0	8.8
Portland, Me.	11.6	13.0	5.0	8.5
Manchester, N.H.	12.3	12.0	5.0	8.9
Burlington, Vt.	12.1	14.4	5.0	8.7
Boston, Mass.	10.5	11.5	4.0	8.5
Worcester	11.1	11.6	4.0	8.0
Hartford, Conn.	10.9	11.5	4.0	8.4
New Haven	10.8	11.8	4.0	7.5
Providence, R. I.	10.5	11.75	4.0	8.5

*Does not include 2 per cent city sales tax, which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and in New England points for tank-wagon delivery to the following: Annual purchases 10,000 gal. and under, tank-car price plus 2 cents per gallon; annual purchases 10,000 gal. up to 50,000 gal., tank-car price plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gal., tank-car price plus 1 cent per gallon; annual purchases 200,000 gal. and over, tank-car price plus ½ cent per gallon. Private consumers pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gal. receive a discount of ½ cent per gallon.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Incl. tax	Kero. tank wag.
Philadelphia, Pa.	12.0	13.5	5.0	10.5
Pittsburgh	13.0	14.5	5.0	10.5
Allentown	13.0	14.5	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton*	12.5	14.0	5.0	10.5
Altoona	13.0	15.0	5.0	10.5
Dover, Del.	...	14.0	5.0	10.5
Wilmington	...	13.5	5.0	10.0

Price basis to undivided dealers, dealer tank-wagon price less 0.5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

*Voluntary discount of 1 cent allowed to dealers only.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank truck	Gasoline Serv. sta.	Incl. tax	Kero. tank wag.
San Francisco	16.0	17.0	4.0	11.5
Los Angeles	15.5	16.5	4.0	10.0
Fresno, Calif.	17.0	18.0	4.0	12.5
Phoenix, Ariz.	20.0	21.0	6.0	*17.5
Reno, Nev.	19.0	20.0	5.0	13.5
Portland, Ore.	18.5	19.5	6.0	13.5
Seattle, Wash.	18.5	19.5	6.0	13.5
Spokane	20.0	21.0	6.0	16.5
Tacoma	18.5	19.5	6.0	13.5

*Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck, and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Dir.	Incl. tax	Kero. tank wag.
Denver, Colo.	13.0	...	5.0	10.5
Grand Junction	17.5	...	5.0	12.5
Pueblo	14.0	...	5.0	9.0
Casper, Wyo.	16.5	...	5.0	11.5
Cheyenne	14.0	...	5.0	11.0
Billings, Mont.	18.0	...	6.0	12.0
Butte	16.0	...	6.0	13.0
Great Falls	18.0	...	6.0	12.0
Helena	16.0	...	6.0	12.5
Salt Lake, Utah	15.5	15.5	5.0	14.0
Boise, Idaho	21.1	21.1	6.0	16.0
Twin Falls	21.1	21.1	6.0	16.5
Albu'que, N. M.	14.5	...	6.5	10.0
Roswell	16.0	16.0	6.5	8.0
Santa Fe	17.5	17.5	6.5	10.0

*Includes city tax of 0.5 cent. †Includes state tax of 1 mill.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Incl. tax	Kero. tank wag.
New Orleans, La.	13.75	16.25	8.0	†11.0
Baton Rouge	14.75	17.25	8.0	‡10.5
Alexandria	14.75	17.25	8.0	‡10.5
Lafayette	15.00	17.50	8.0	‡10.0
Lake Charles	14.75	17.25	8.0	‡10.0
Shreveport	13.50	16.00	8.0	‡9.0
Knoxville, Tenn.	18.00	19.50	8.0	12.5
Memphis	16.00	17.50	8.0	11.0
Chattanooga	17.50	19.00	8.0	12.0
Nashville	17.00	16.4	8.0	11.5
Bristol	18.25	17.50	8.0	12.0

Esso1ene at dealer price less 0.5 cent per gallon to undivided dealers.

†Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Incl. tax	Kero. tank wag.
Texarkana, Ark	13.0	5.0	7.0
Fort Smith	14.5	5.0	7.5
Little Rock	16.75	7.5	8.0
Muskogee, Okla.	12.0	5.0	7.0
Oklahoma City	10.0	5.0	6.5
Tulsa	11.0	5.0	6.0

Tank wagon represents price to consumers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dir.	Incl. tax	Kero. tank wag.
Omaha	16.5	14.9	6.0	9.0
McCook	17.0	13.9	6.0	9.5
Norfolk	17.0	14.9	6.0	9.9
North Platte	17.3	14.5	6.0	10.2
Scottsbluff	17.9	15.0	6.0	10.5

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Texas

	Gasoline Tank wag.	Gasoline Dir.	Incl. tax	Kero. tank wag.
Dallas, Tex.	11.0	15.0	5.0	7.0
Fort Worth	11.0	15.0	5.0	7.0
Houston	13.5	17.5	5.0	8.0
San Antonio	12.0	16.5	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Incl. tax	Kero. tank wag.
Halifax, N. S.	25.0	10.0	18.0
St. John, N. B.	25.0	10.0	18.0
Montreal, Que.	24.0	8.0	16.5
Toronto, Ont.	23.5	8.0	16.0
Hamilton, Ont.	23.5	8.0	16.0
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.0
Regina, Sask.	25.0	7.0	20.0
Saskatoon, Sask.	28.0	7.0	23.0
Edmonton, Alta.	25.9	7.0	20.0
Calgary, Alta.	23.0	7.0	18.0
Vancouver, B. C.	21.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. of Louisiana May 28 reduced consumer tank-car gasoline 1.1 cent in Nashville.

Continental Oil Co. June 4 advanced tank-wagon and dealer gasoline 1 cent in Albuquerque.

Government Surveys Planned

Canadian Government has announced that five government geological parties will be sent to Alberta this month to survey potential oil areas. One of the parties will be in charge of Dr. G. S. Hume, who has made a specialty of Alberta oil research. Field work will start shortly after June 15. This year's work represents the most extensive petroleum survey program yet undertaken by the federal government in Alberta.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of June 11, 1940

The quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils. Octane ratings in Middle West, Mid-Continent, and Southwest are based on A.S.T.M. method of testing.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04⅝	.04¾
63-66 octane	.04⅛	.04¼
60 octane and below	.03¾	.03⅞
60-62 400 grades:		
72-74 octane (regular)	.04⅝	.04¾
63-66 octane	.04⅛	.04¼
60 octane and below	.03¾	.03⅞

NORTH TEXAS—

U. S. Motor grades:		
72-74 octane (regular)	.04⅝	.04¾
63-66 octane	.04⅛	.04¼
60 octane and below	.03¾	.03⅞
60-62 400	.04¾	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
72-74 octane (regular)	.05⅛	.05⅜
63-66 octane	.04⅝	.04⅞
60 octane and below	.04¼	.04½

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
72-74 octane (regular)		.04¾
60 octane and below		.04

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04¾	.04⅞
63-66 octane	.04⅝	.04½
60 octane and below	.04	.04¼
60-62 400 grades:		
72-74 octane (regular)	.04¾	.04⅞
63-66 octane	.04⅝	.04½
60 octane and below	.04	.04⅛

PENNSYLVANIA (inland refineries)—

74-76 octane (regular)		.06
72-74 octane		.05¾
58-62 U. S. Motor	.04½	.05

CALIFORNIA (domestic movement)—

58-60 400, 65 oct. and higher	.06¾	.07¼
54-58 U. S. Motor	.05½	.06½

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06	.06¼
Philadelphia	.06	.06¼
Boston	.06¼	.06½
Baltimore	.06	.06¼
Charleston, S. C.	.06½	.07

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
72-74 octane	.04½	.04¾
70-72 octane (leaded)	.04⅜	.04½
68-70 octane	.04¼	.04⅜
65-67 octane		.04¼

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.01½
Grade 18-55	.01⅝	.01⅞

NORTH TEXAS—

Grade 26-70		.01¼
Grade 18-55		.01½

CALIFORNIA—

75-85 375-390	.05¼	.05⅜

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.01⅝

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03⅝	.03⅞
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03⅞	.04
46-48 gr., 210-230 l.b.p., 480-max., e.p.		.04

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

42-44	.03⅞	.04
41-43	.03¾	.03⅞

NORTH TEXAS—

41-43	.03¾	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04	.04¼

ARKANSAS (Ark. and N. La. del.)—

41-43		.04¼

PENNSYLVANIA (inland refineries)—

45	.05	.05⅛
46	.05⅛	.05¼
47	.05¼	.05⅜

CHICAGO (Based on Group 3)—

42-44	.04⅛	.04¼
41-43	.04	.04⅛

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04½	.05½

NEW YORK (Bayonne, N. J.)—

41-43	.05½	.06

GULF COAST (domestic)*—

41-43		.04½

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03⅝	.03⅞
No. 1 prime white, 38-42	.03⅝	.03⅞
No. 1 straw, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03⅜	.03½
No. 3 zero to 10, 28-32		.03¼

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅝	.03¾
No. 1 straw, 38-40	.03½	.03⅝

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03	.03⅛

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.03¼	.03⅜

CHICAGO (Based on Group 3)—

Range oil	.03¾	.03⅞
No. 1 prime white, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03⅜	.03½
No. 3, zero to 15, 28-32	.03⅛	.03⅜

NEW YORK (Bayonne, N. J.)—

*No. 1	.055	.060
*No 2	.047	.050
*No. 4	.047	.050

*Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.47½	.52½

NORTH TEXAS—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.47½	.52½

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.65	.70

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 5, low pour point, 18-22	.75	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.45	.55

PENNSYLVANIA (inland refineries)—

36-40		.04

CALIFORNIA—

30-40 gas oil, per bbl.	1.15	1.25
24 plus diesel, per bbl.	1.15	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.65	.75
10-16 (cargo lots)	.65	.75
12-17 (tank cars)	.60	.75
10-17 (high sulfur)	.50	.65
San Joaquin Valley:		
10-18 (tank cars)	.50	.70
24 plus diesel, per bbl.	1.15	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel	.03½	.03¾
43-47 diesel	.03⅞	.04
48-52 diesel		.04
53-57 diesel	.04	.04¼
58-and-above diesel	.04¼	.04½
Diesel bunkers		1.50
Bunker C (bulk cargoes)	.72	.80
Bunker C (bunkers)		.80

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.04¾	.05
28-30 diesel (lighterage 6¼c per bbl.)		1.95
28-30 diesel (tank cars)	.04¾	.05¼
Bunker C (to ocean-going ships in N. Y. Harbor)		1.35
Industrial fuel (tank cars)	.033	.035

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

200-210 D, 10-25		.21
150-160 D, 0-10		.17
150-160 D, 10-25		.16½
100-110 D, 0-10		.16
100-110 D, 10-25		.15½
Steam refined:		
600 dark green (untreated)		.07½

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point		.21½
15 pour point		.20½
25 pour point		.19
Steam refined:		
600		.11
650		.13
600 flash		.15
630 flash		.16

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.09½
180-3		.10½
200-3		.11
250-3		.12
280-3		.12½
280-4		.12
300-3½		.13
350-3½		.13½
400-3½		.14
500-3½		.15
600-3½		.16
100-2½ paraffin oil, 10-25 pour point:		.05¾
200-3		.10½
250-3		.11½
280-3		.12
280-4		.11½

GULF COAST—

Pale oils:		
100-3	.05½	.05⅝
200-3	.07¼	.07½
300-3	.07⅝	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09⅝	.10
2,000-4	.10	.10¼
3,000-4	.12¼	.12½
Red oils:		
200-5-6	.07	.07¼
300-5-6	.07½	.07⅝
500-5-6	.08¼	.08⅝
750	.08⅝	.09¼
1,200-5-6	.09⅝	.09⅝

CALIFORNIA (Moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point		.23
10 pour point		.22
15 pour point		.21
25 pour point	.19½	.20
200 vis. at 70° F., 3 color:		
Zero pour point		.25½
10 pour point		.24½
15 pour point		.23½
25 pour point	.21½	.22

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.04½	.04¾

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale		.04¾
124-126 (A.m.p.) w.c. scale		.04⅝

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax		.0630
128-130 (A.m.p.) wax		.0640
130-132 (A.m.p.) wax		.0660
133-135 (A.m.p.) wax		.0675
135-137 (A.m.p.) wax		.0800
Crude scale:		
124-126 (A.m.p.) w.s.	.04⅝	.04¾
124-126 (A.m.p.) y.s.	.04⅝	.04⅞
Petrolatum in barrels, carload lots:		
Dark green	.02625	.03125
Amber	.02875	.03375
Extra amber	.03000	.03625
Lily white	.05125	.05875
Snow white	.06125	.06875
Cream	.04125	.04875

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04¼	.04½
60-62 400	.04½	.05
61-63 390	.04¼	.05¼
64-66 375	.04¼	.04⅝

LOS ANGELES—

U. S. Motor grades:		
Above 69 octane	.06¼	.06½
65-69 octane	.05⅝	.06¼
60-65 octane	.05¼	.05⅝

KEROSENE

GULF COAST—

41-43 water white	.04¼	.04⅝

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbl.)—

Cylinder stocks:		
600 S.R. unfiltered	.19	.20½
630 S.R. unfiltered	.20	.22½
600 flash, S.R.	.21	.23½
630 flash, S.R.	.26	.26½
Bright stock:		
Light, 25 pour point		.29

NEUTRAL OIL

200-3 color		.31
150-3 color		.29

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 A.m.p.		.06⅝
125-127 A.m.p.		.06⅞
128-130 A.m.p.		.07
133-135 A.m.p.		.07⅝
135-137 A.m.p.		.08¼
Crude scale:		
124-126 w.s.	.04⅝	.04¾
124-126 y.s.	.04⅝	.04¾

EQUIPMENT PROGRESS...

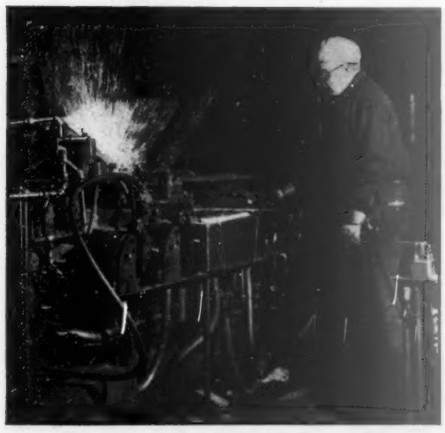
Bethlehem's Continuous Butt-Weld Mill Incorporates New Features

A continuous mill for the production of butt-welded pipe, incorporating new features, has been put into operation at the Maryland plant of the Bethlehem Steel

Sizing mill and descaler

Co. Pipe in sizes from ⅜ in. to 3 in. nominal diameter is produced in this mill, which is designed for rolling skelp from 1½ in. to 12 in. wide, in gages ranging from 0.068 in. to 0.312 in. The rated capacity is up to 16 tons per hour. Construction work has been started on a second unit which will supply butt-welded pipe in a higher range of sizes.

The new facilities are housed in a 110 by 550-ft. structure built entirely of protected metal, except for one side where the first 10 ft. of the wall is brick. The floor is 6-in. concrete with a hardener on the surface. Two rows of windows on each side and a continuous sash in the monitor roof furnish abundance of light and ventilation, with aluminum paint giving added brightness to the interior. At one end of the building is the pipe storage, a 165 by 100-ft. brick



Flash welder in action

structure of high-low bay construction, with air-crete roof and monitor sash.

Due to the continuous operation of the mill, the skelp is supplied in coils of 35 and 48 in. diameter, instead of in flat lengths. Depending upon the size of the pipe produced, these coils weigh from 600 to 2,400 lb. each, and contain from 185 to 750 ft. of skelp. They are delivered from storage, weighed and placed conveniently near the coil box. As needed they are lifted into the coil box by means of an air-operated jib crane. The end of the skelp is passed through a roller leveler into an up-cut shear, which trims the ends, if necessary. The skelp then goes to an electric flash welder where it is butt-welded to the end of the preceding coil, to form a continuous strip.

Depending upon the size of the skelp the welding of a new coil to the preceding coil is completed in 3½ to 17 seconds. To insure uninterrupted operation the welder is placed 10 ft. from the roller leveler, allowing the skelp to be easily adjusted in welding, while a double looping bed immediately after the flash welder provides sufficient feed for the mill during the welding operation, while the end of the skelp remains stationary.

TRADE LITERATURE

WALLACE & TIERNAN CO., INC., Newark, N. J.—"W&T Hypochlorinators," an 8-page illustrated booklet describing method of protecting small water supplies, such as those for refineries, natural-gas plants, oilfield camps, etc.

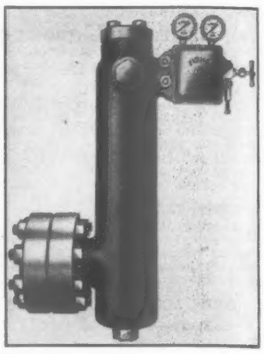
PITTSBURGH BRASS MANUFACTURING CO., 3155 Penn Avenue, Pittsburgh, Pa.—Catalog 3, bronze tuyere cocks, tuyere fittings, unions, elbows, etc.

Valves Removed Under Pressure

McEvoy Co., Houston, Tex., announces successful removal of over 500 valves from christmas trees under pressures ranging to 2,700 lb. per sq. in. Valve removal under pressure permits replacement or repair of faulty valves without killing the well or shutting off production. It also permits the removal of useless valves when well conditions are known. The last few years, according to McEvoy Co., have taken the process out of the experimental stage and made valve removal under pressure dependable.

Fisher Liquid-Level Controller Is Made for High-Pressure Use

A new and improved high-pressure liquid-level controller, Type 246-H, is announced by Fisher Governor Co., Marshalltown, Iowa. It is especially designed for high-pressure wide-range service as a remote-type liquid-level controller where it is desirable to install the diaphragm control valve at some distance from the vessel. Outstanding features are smooth control action with a minimum of friction lag, high sensitivity, wide range of control, and throttling range adjustment 20 to 200 per cent.



The body of this new Level-Trol is electric cast steel, series 2,500 lb. A.S.A. rating, suitable for maximum cold working pressure of 4,000 lb. Lower equalizing connection is 3-in. flanged type; upper equalizing connection, 1-in. flange type.

The 3 by 18-in. Dow metal float is supported by a chrome-vanadium tungsten steel cantilever spring. The bearing is of the nonlubricating packless type.

Acquires Julian d'Este Business

The Julian d'Este Co., Boston, Mass., has been merged with American Chain & Cable Co., Inc., Bridgeport, Conn. The former company's products, which include Curtis steam specialties, pressure-reducing valves, liquid-temperature regulators, tank and float valves, hot-water-tank regulators, pump regulators, and relief valves, will be manufactured at American Chain & Cable's plant in Reading, Pa.

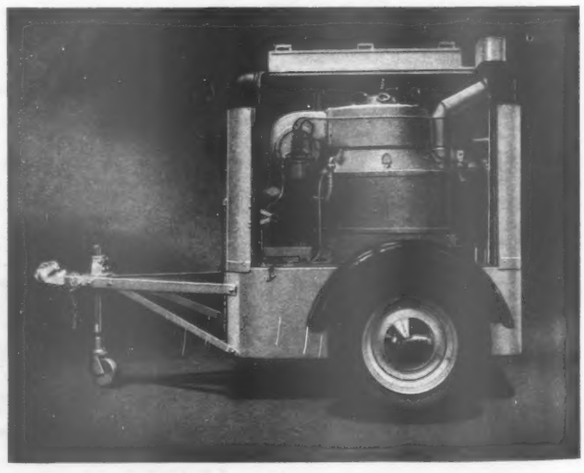
BETTIS STEAM GENERATOR HAS MANY USES IN OIL INDUSTRY

Bettis Sales Co., Houston, Tex., is introducing the Bettis steam generators (Vapor-Clarkson patents), available at present in 12-hp. and 30-hp. units.

The 30-hp. unit, developing 1,000 lb. steam per hour, weighs only 1,450 lb. complete and is easily portable. It is easy to start and stop and operates automatically at any desired pressure up to 300 lb. Full steam pressure and volume are available in approximately 2 minutes, eliminating firing-up and cooling-down periods. Steam can be furnished saturated or at 600° F. as desired.

The Bettis steam generator is recommended for melting paraffin from well tubing by injecting superheated steam into the casing, an average job with the 30-hp. unit requiring about 3 hours. Where casing pressures are above 300 lb., generators can be furnished to operate on steam pressures up to 1,500 lb. Other uses include cleaning and exhausting large storage tanks, cleaning tool joints and equipment on diesel and electric rigs, treating oil, steaming gasoline tanks, fire-extinguishing, and paint stripping. The illustration shows one of the units mounted on a small trailer.

The generator burns fuel oil only during time steam is used; small space required (30-hp. unit is 54½ in. long, 36½ in. wide and 41½ in. high); fuel and air intakes are above zone of inflammable gases; construction meets all established regulations including A.S.M.E. code and all units carry Hartford steam boiler inspection certificates.



AMONG EQUIPMENT MEN...

Fusion Welding Forum Ceremony Makes Davis "Chief Fleetweld"

He was Chief Fleetweld until he laid aside the magnificient headgear and the tomahawk. Then he again became plain A. F. Davis, vice president and

secretary of the Lincoln Electric Co., Cleveland, Ohio.

Mr. Davis was attending a meeting of the Fusion Welding Forum at the recent International Petroleum Exposition, Tulsa, when to his astonishment he was called to the platform, invested with the Indian regalia, and inducted into the forum in recognition of his service to the welding industry.

The tomahawk was referred to as "the first chipping hammer," the difference between it and the modern chipping hammer being that the latter is used to chip welds instead of skulls.

The Fusion Welding Forum was organized several years ago by "Duke" Wiley, welding superintendent of the Mid-Continent Petroleum Corp., assisted by Dick Thames, to provide welders of the company opportunity to study and improve their skill.

Linde Announces Promotions

The Linde Air Products Co., a unit of Union Carbide & Carbon Corp., New York, has elected T. D. Cartledge and L. A. Bliss vice presidents, and E. J. Hayden vice president, central division. Mr. Cartledge has been general sales manager and Mr. Bliss, works manager. Mr. Hayden has been manager of the company's central division. E. B. Suydam, formerly assistant general sales manager, has been appointed general sales manager to succeed Mr. Cartledge; and P. B. Pew, formerly assistant works manager, succeeds Mr. Bliss.

BUSINESS NOTES

Wilson Supply Co., Tulsa, has engaged Frank M. Stauffer as gas-lift engineer. The company has moved into larger offices in the National Bank of Tulsa Building. Phil S. Stover is in charge.

C. K. Bryce has been elected vice president of Oxweld Acetylene Co., a unit of Union Carbide & Carbon Corp., New York. He was formerly manager of factories.

Wickwire Spencer Steel Co., New York, has appointed G. L. Crawford, Buffalo, N. Y., district manager in charge of sales of all products. Mr. Crawford replaces A. G. Bussmann, who was promoted to general sales manager. Mr. Crawford, with the company since 1927, continues as sales manager of structural products. The Buffalo district sales offices are at 70 Niagara Street.

Allegheny Ludlum Steel Corp., Pittsburgh, Pa., has appointed C. R. Mitchell, Jr., assistant district manager of sales for the New York district. Mr. Mitchell graduated from the University of Pittsburgh in 1928.

Fred J. Plattner has been appointed general superintendent of all terminals of the General American Tank Storage Terminal Division of General American Transportation Corp. Mr. Plattner, who succeeds the late William J. Besselman, has been superintendent of the General American terminal at Carteret, N. J.

Norvell-Wilder Supply Co., Houston, Tex., has appointed W. S. (Bill) Blodgett, Jr., as representative in Tulsa replacing J. M. Thompson, resigned. Mr. Blodgett is a graduate engineer from Texas A. & M. College and spent 4 years with a major oil company before entering the supply business. He has been with Norvell-Wilder 4 years.

Howard R. Murphy has been appointed sales manager of the central division for Caterpillar Tractor Co. He goes to "Caterpillar" from Sears, Roebuck & Co., where he managed the tractor business, but before that he was with "Caterpillar" 11 years, becoming manager of the sales-development division.

Stedman Joins Bastian-Blessing Co.

Gerald E. Stedman has been appointed sales manager of the Rego division, Bastian-Blessing Co., 242 East Ontario Street, Chicago, which manufactures extensive lines of equipment in the gas welding, cutting and liquefied petroleum gas fields.

"We believe marketing practice to be as susceptible to improved design as are products," said Ellsworth L. Mills, vice president in charge of sales, "and we intend to introduce streamlined selling methods into our Rego marketing activities, adapting the successful technique of general merchandising to our technical selling requirements."

Mr. Stedman is nationally known in merchandising, research, sales training and public-relations circles. He has directed much successful sales planning. A business writer for many trade publications, he maintains national contact with more than 10,000 merchants and salesmen and is an exponent of basing sales programs on actual field experience.

Anchors Manager in Oklahoma City

E. H. Anchors, formerly branch manager for the Air Reduction Sales Co. in Atlanta, Ga., has been appointed manager of the Oklahoma City, Okla., district. Mr. Anchors began his career 15 years ago with the Commercial Acetylene Supply Co. He was southern manager of this company when it was acquired by Air Reduction. Since that time he has served continuously as branch manager in Atlanta.

Martwick Made Vice President

Foster Wheeler Corp., New York, has made W. L. Martwick vice president in charge of sales. Mr. Martwick graduated from Haverford College in mechanical engineering, and was for some time president of the Aero Pulverizer Co. When Power Specialty Co. absorbed the Aero Pulverizer Co. in 1926 Mr. Martwick joined the Power Specialty organization as manager of the pulverized fuel division. Foster Wheeler Corp. was formed in 1927, a consolidation of Power Specialty Co. and Wheeler Condenser & Engineering Co. Mr. Martwick advanced through various administrative sales positions of the petroleum refining and power-plant departments to that of general sales manager.

Barrett and Turnbull Go to Higher Positions in Pomona Pump Co.

With the establishment of an eastern executive office at 120 Broadway, New York, the Pomona Pump Co. has elected C. L. Barrett, formerly general sales manager,

C. L. BARRETT *W. D. TURNBULL*

vice president in charge of sales, and appointed W. D. Turnbull general sales manager in charge of the New York office.

Mr. Turnbull, before joining Pomona, was associated for 17 years with the Westinghouse Electric & Manufacturing Co. in Pittsburgh, Pa., first in charge of sales to the mining and petroleum industries and later as manager of machinery electrification sales.

Associated with Mr. Turnbull in the New York office will be Svend A. Canarils, nationally known waterworks engineer; G. H. Lambert, eastern district manager; Dan M. Wallace, national accounts, and George H. Shetlin, export sales. Direct sales in the New York area are under the direction of Quimby-Ryan Engineering Sales Co., Inc., 1 East Forty-second Street, as distributor.

Chief Engineer in Conveyor Division

The Jeffrey Manufacturing Co. has appointed Stanley M. Mercier chief engineer in the conveyor division. Mr. Mercier directs all conveyor engineering and engineering sales activities. Born and educated in England, Mr. Mercier has had a varied experience in industrial and construction engineering, design and sales, and has been associated with some of the most outstanding construction operations in the country during the last decade.

Roodhouse Forms Export Agency

Hal R. Roodhouse has resigned as export manager for Pomona Pump Co. and organized the Hal R. Roodhouse Co. to act as export representative. Offices are in the Chamber of Commerce Building, Los Angeles, Calif. The company will specialize in handling water-well drilling machinery, well casing, line pipe for the transmission of water and gas, and a general line of well-drilling tools, equipment and supplies.

Among the manufacturers represented are Roscoe Moss Co., Los Angeles, water-well drilling machinery, automatic electric-welded double-wall casing, and other well-drilling equipment; and Southern Pipe & Casing Co., Azusa, Calif., automatic electric-welded water-well casing and line pipe, and corrugated culvert. Mr. Roodhouse had been with Pomona Pump Co. 12 years.

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Leases and Drilling Blocks

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

BROKERS and SALESMEN
A complete SERVICE. EXPERTS in every department of the Oil Business at your SERVICE; a REAL SET-UP. The best opportunity ever offered you. Leases in large or small lots at
WHOLESALE PRICES
Write today and get started right.
OIL BROKERS EXCHANGE
Santa Fe, New Mexico.

CRANE-WARD County 20 ac. cheap in fee, under Magnolia lease. J. G. SMITH, 215 Littlefield Bldg., Austin, Texas.

NEW MEXICO
Oil and Gas Leases and Royalties.
ROY G. BARTON, Hobbs, N. M.

FOR complete and accurate coverage of the new Artesia Area, read The ARTESIA (New Mexico) ENTERPRISE. $2 a year.

CRANE CO., oil possibilities, cheap fee land, 3 mi. E Ward Gulf-Western drilling. J. G. Smith, 215 Littlefield Building, Austin, Texas.

INVESTOR with $1,000 join me on 50-50 basis drilling 320 A. proven gas lease. Gas Cont'd 6c 1,000 ft. Total cost $2,000. Big profits. 3D-710 S. Elgin. Tulsa, Okla.

CASH paid for producing wells. Or will immediately drill proven land. Describe fully or no reply. P.O. Box 93, Tulsa, Ok.

FOR LEASE
288 acres out of I. L. Aud Survey in Young County, Texas. Situated 4 miles North of 25,000 bbl. gusher, Knight land, 3 miles South of James pool on direct line. Call or write
MRS. W. H. McPHERSON, Owner
1223 South Gary Ave. Tel. 6-3291
Tulsa, Oklahoma.

CUMBERLAND—Lot 13, Block 22. Make best offer. Sale or lease. 10 acres each. Carter, Murray, Johnston. H. Urilen, 2646 Central Ave., Minneapolis, Minn.

Leases and Drilling Blocks

FOR SALE Oil and gas leases and small production located in Kentucky shallow field, and leases located in Clay County, Tenn. Have for sale two tracts of proven Fluorspar and Zinc deposits; reports furnished on request. W. P. Harley, Bowling Green, Kentucky.

NEW MEXICO
STATE OIL AND GAS LEASES
40 acres and multiples thereof. In the Hot Spots. Buy direct. Save those dollars. No middle man to pay; no salesman to bother you! Twenty years in the business without a complaint. Write for information.
HARRY S. WRIGHT
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AND ROYALTIES
If you wish to buy or sell producing or non-producing oil leases or royalties located in West Texas or Eastern New Mexico, Address:
AMERICAN NATIONAL BROKERAGE CO.
Post Office Box 516
Levelland, Texas.

CALIFORNIA LAND IN FEE, adjoining, and in some cases completely surrounded by Major Oil Companies who own their land in fee. We have listed many small tracts at very reasonable prices that have wonderful speculative inducements for good profits.
NATURAL RESOURCES CO.
703 Central Tower Building
San Francisco, Calif.

KENTUCKY OIL PRODUCTION
FOR SALE
2 wells fully equipped and producing on 51 acres of land near Fordsville, Kentucky, priced for immediate sale. Write Rietman Company, 905 Atlas Bank Building, Cincinnati, Ohio.

WANTED: Reliable partner to carry half interest 240 acre lease, Kentucky field. 650 to 700 ft. Several wells in area; oil and gas. Others drilling; locations staked for more. Ready market for gas; grand opportunity for 42-gravity oil. Address 907 S.E. Third St., Evansville, Ind.

120 ACRES Custer Park, Illinois for sale, leased or drill for oil. Possible oil field. Write to V. J. Dellorto, 6143 So. Ashland, Chicago.

OWNER thousand acres of E. Okla. productive coal, oil and gas land; $15 fee, half cash, balance in trade; $5 per a. lease or royalty. J. E. Cavanagh, Baker, Ore.

FOR SALE shallow and deep oil properties, $5,000 to $650,000, also Hotels, Farms and Ranches. A. R. Lewis, Corsicana, Texas.

Leases and Drilling Blocks

EAST TEXAS Paluxy-Trinity sand wildcats now drilling others starting shortly afford you chances for quick money. Leases close in. E. CROFT, Proctor, Tex.

PRODUCER OR INVESTOR ATTENTION, we have an oil structure leased which has been mapped by Frederick G. Clapp leading Geologist of the Nation. It parallels an uplift he formerly mapped now worth 20 million dollars. He states he has high opinion of this structure for production. We are in sight of wells that blow in as high as 2000 to 5000 barrels at 3300 feet. Would you like to drill or help drill this property, we can offer you a great opportunity, reports and maps will be sent without obligation, also highest references. Address Box 572, Chickasha, Okla. Telephone 220 and 2352.

FOR SALE: Royalty on 880 acres lying on trend between two producing oil and gas fields, located Barber County, Kansas. Production within two miles. Major company now drilling approximately center tract. Call or write Riley MacGregor, Medicine Lodge, Kansas

KENTUCKY OPPORTUNITY
4000 Acres of very desirable gas and oil leases offered. Will consider drilling deal.
JOHN PAUL GIBSON
35 South William St., New York City.

BUYING, SELLING and HANDLING oil production, proven, semi-proven, wildcat royalties and leases, drilling blocks, lands and large loans to owners of these properties. Inspecting and estimating values is and has been my business at this place thirty years. See or write me at Box 13, Alanreed, Grav Co., Texas. E. B. Reeves.

IMMEDIATE delivery, large or small tracts on Lincoln Fold, North Missouri. Ten year, 25-cent rental, all close around five wells now drilling. Price depending on location. J. W. Eddington, Kirksville, Mo.

FOR SALE: Oil lease, has one producing well, NE¼ of SW¼ of Sec. 17, Twp. 18N, Range 12 East. 40 Acres Creek Co., Okla. For particulars, write Wade Walker, 1124 1/5 Lodi Place, Hollywood, California.

For Sale—Maps

R. B. ROBINSON MAPS
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1940 OIL AND GAS FIELD MAP
Texas, Eastern New M. Price $1.00.
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ZINGERY OIL MAP CO., Fort Worth, Tex.

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The Philtower
Tulsa, Oklahoma

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

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Ramsey Tower, Oklahoma City, Okla.

PRODUCING, Non-Producing oil royalties and leases. If you wish to buy or sell, address Claude L. Jordan, 3121 N. W. 21, Oklahoma City, Okla.

Situations Wanted

PRODUCTION AND DRILLING SUPERINTENDENT with several years' major company experience would like to join independent company, drilling contractor or individual. Can take full charge of your operations. Address Box K-642, The Oil and Gas Journal, Tulsa, Okla.

YOUNG MAN, GRADUATE ENGINEER, 5 years' production experience desires salaried position with small company or independent operator but would try selling. Will go anywhere. Address Box K-640, The Oil and Gas Journal, Tulsa, Okla.

UNIVERSITY GRADUATE, married, free to travel. Experience in pipe line design and construction, lease buying and scouting. Address Box K-651, The Oil and Gas Journal, Tulsa, Okla.

REFINERY MANAGER or Superintendent. Well experienced in construction, operation and maintenance of modern refinery equipment. Thermal and Catalytic Polymerization, alkylation and hydrogenation. South American location considered. Address Box K-652, The Oil and Gas Journal, Tulsa, Okla.

Help Wanted

SALES ENGINEER, with oil field machinery experience, by large supply company. Location Tulsa. Must be capable of direct selling and office detail work. Two years college engineering education minimum requirement. Advancement opportunities unlimited. Detail past experience and education in first letter, enclosing small photograph if available. All replies treated confidentially. Address Box K-645, The Oil and Gas Journal, Tulsa, Okla.

PIPING DRAFTSMAN for oil refinery work, capable of making good drawings and having sufficient experience to qualify as checkers. State full experience record, age and salary. Arthur G. McKee & Co., 2422 Euclid Avenue, Cleveland, Ohio.

RESPONSIBLE ● ● INDIVIDUALS
$1,800 to $25,000
Use this thoroughly trained organization to locate and NEGOTIATE the kind of position you want. If you have earned $1,800 or more, write for details.
EXECUTIVE SERVICE, Inc.
State Life Bldg. Indianapolis, Ind.

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Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

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We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

CLASSIFIED ADVERTISING

For Sale—Equipment **For Sale—Equipment** **For Sale—Equipment** **For Sale—Equipment**

WIELAND PIPE THREADERS
Exceptional opportunity to purchase 4, 6, 12 and 18-inch little used machines in fine condition with perfect dies.
CHAS. F. WIELAND
199 Hillcrest Rd., Berkeley, Calif.

FOR SALE—Refinery in Central Kansas. Well established, doing good business as books will show. Entering other business. Box 222, Chase, Kansas.

FOR SALE

10,000 Ft. 2½" seamless tubing, used in flowing wells only.

10,000 Ft. 7" O.D. 26# seamless casing, once run.

15,000 Ft. 4½" O.D. seamless drill pipe equipped with both regular and full hole tool joints.

In addition to the above we have 20,000 Ft. screw line pipe in Oklahoma; also drilling rig capable of drilling to 6500 feet, complete stock of line pipe, casing, drilling and pumping equipment.

Wire, Write or Phone for Prices.

Louisiana Iron & Supply Co.
Shreveport, La.

USED SUCKER RODS
Have been pumping in deep wells that are being abandoned. ¾'s and ⅞'s in A-1 condition. Save 50% or more on rods. AL BROWN SUPPLY CO., Box 841, Kilgore, Tex.

FOR SALE: Star #28 beam steam machine lines and tools complete. Box 592, Emporia, Kansas.

FOR SALE: Cable tool drilling machine complete except for tools, including steel derrick and 120 H.P. Clark drilling engine, located near Graham, Texas. Address Box 1098, Shawnee, Okla.

TRACTORS
Caterpillars, crawler type, size "35," $375; size "65" with nigger-head winch $750; Caterpillar RD8 with bulldozer $2000; Allis-Chalmers Model L with bulldozer $1750. Guaranteed, slightly used. O. C. Evans, Mt. Sterling, Ky.

ILLINOIS BASIN TYPE ROTARY. Complete mechanical unit. Cardwell Winch Type Draw Works powered with GAKU Waukesha Engine. Wilson-Snyder Power Pump powered with D-13000 Caterpillar Diesel Engine. Kohler Light Plant. All the Rotary Tools, Casing Tools, Cable Drilling-in Tools, Drill Pipe, Supplies and Fittings. Everything in tip-top shape. Most of the equipment is almost as good as new. Been used only on comparatively easy shallow Illinois work. Can be had with or without Drill Pipe at exceptionally low bargain price and terms to suit responsible buyer. Located at Griffin, Ind. Price and itemized list of equipment promptly furnished interested parties. Bridgeport Machine Company, Wichita, Kans.

Complete Late Type Cracking Unit

2500 bbl. thruput cracking—6000 bbl. topping and cracking. Original cost $600,000.00—Units complete in every respect. Turbine driven hot oil pumps.

Priced for immediate sale. Will dismantle and load for reerection or

Will take turnkey job for dismantling and reerection your site.

WIRE **PHONE** **WRITE**

SONKEN-GALAMBA SUPPLY CORPORATION

W. C. Berry and H. J. Galamba
Riverview at Second, Kansas City, Kansas

Robt. W. Duden
2100 S. Union, Tulsa, Oklahoma

5W Bucyrus-Monighan Diesel Walker Dragline 100 foot boom, 6-yard bucket.
45B Bucyrus-Erie Diesel Dragline, 65 foot boom, 2-yard bucket.
52B Bucyrus-Erie Diesel Dragline, 60 foot boom, 3-yard bucket.
150 P&H Dragline, 30 foot boom, ½-yard bucket with trailer.
D8 Caterpillar Tractor with Bulldozer.
All in splendid operation condition. Completed contracts. Priced to Sell. Address Box K-630, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE: 7 ft. x 20 ft. Butane welded storage tanks 125# WP, capacity 6000 gallons. I.T.I.O. Co., Bartlesville, Okla.

USED PUMPING UNITS. Two Jensen 18-C's. Had only moderate use. Guaranteed splendid condition. One or both at exceptionally low price f.o.b. Russell. Bridgeport Machine Company, Wichita, Kansas.

SELLING out stock pipe connections, valves, tools, 18" pipe-threading machine and motor. A. D. Elliott, Depew, Okla.

PORTABLE RIG FRONT Bridgeport make. Brand new. Price reduction over $500. Front only, or complete Portable Cable Tool Drilling Unit with power and related equipment. Heavy duty unit suitable for cable tool drilling, pumping, clean-out or rework jobs. Real deal for anyone needing this type of equipment. Bridgeport Machine Company, Wichita, Kansas.

FOR SALE: 6 wells, approximately 2000' deep, equipped with a Power, making 300 bbls. per month. Address Sherman-Austin Oil Company, Cottonwood Falls, Kansas.

WANTED: Gasoline plant location. Have complete absorption plant, engines and pipe. Address Box K-653, The Oil and Gas Journal, Tulsa, Okla.

1250 BBL. capacity skimming plant in heart of Illinois oil field, plenty crude supply, plant now in operation. Showing profit. ⅓ cash, balance conditional sales contract to reliable parties. Address Box K-650, The Oil and Gas Journal, Tulsa.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St., Cincinnati, Ohio

FOR SALE

MILLER IMPROVED 85 H.P.
TWIN CYLINDER NATURAL GAS ENGINE—EXCELLENT CONDITION.
WILL SACRIFICE FOR IMMEDIATE DISPOSAL.

THE BASSICHIS CO.
2323 W. 3RD ST.
CLEVELAND, OHIO

FOR SALE: Two 6" Union Tool unitized draw works and one 20" Johnson Rotary table, at a bargain. Address: Acme Salvage Co., Longview, Texas.

Mailing Lists

ROYALTY Owners, Oil Investors, Unit Holders, Stockholders in Oil, Royalty and Mining Companies. Personnel lists of every branch of oil industry. All by states. We buy or swap lists. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Okla.

Investment Wanted

MANUFACTURER or Sales organization to distribute exclusively, a new, radically different, drill bit proved 25% to 65% more efficient than the fish tail, in all formations and depths. Liberal terms. Kless, 414 Stratford St., Houston, Texas.

Financing

JOHN MORRIS, Box 5411, Philadelphia, studied records 5000 financial houses. Found only 191 buy new issues. $4.00.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CAPITAL SEEKERS
Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

Legal Blanks

BURKHART'S legal blanks and general forms serving Mid-Cont. oil field since 1908—Okla. Kans. N. Mex. Tex. Ala. Ark. Fla. Ga. Ill. Ind. Ky. La. Mich. Miss. Mo. Neb. N. Dak. Tenn. Wyo. Free catalog, samples on request. Burkhart Ptg. & Sta. Co. 115 S. Cinn. Tulsa, Oklahoma.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Survey Service

REMEMBER EAST TEXAS
When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years' experience. A wise man investigates. George Miller, 1548 Post, Torrance, California.

HOMER L. FITCH, GEOPHYSICIST AND LOCATION ENGINEER
WHY? Drill a dry hole? Our method only locates structures which contain oil or gas. Locations made by us will produce or no pay. Write Drawer 711, Brownsville, Texas.

SPECIALIZED Geophysical investigations conducted for petroleum promise. In touch with many opportunities to and for development of drilling blocks. P. O. Box 364, Fort Worth, Texas.

Rocky Mountain Runs

Production estimates for week ended June 8, 1940:

WYOMING

	Bbl.
Salt Creek	18,880
Big Muddy	1,180
Byron	4,280
Dallas Derby	400
Frannie	2,880
Garland	3,480
La Barge	1,560
Lance Creek	23,940
Lost Soldier	1,940
Medicine Bow	760
Oregon basin	4,330
Osage	600
Quealy Dome	490
Rock River	2,460
Wertz	1,990
Miscellaneous	1,730
Total Wyoming	70,900

MONTANA

Kevin-Sunburst	5,190
Border	70
Cat Creek	320
Cut Bank	10,580
Dry Creek	740
Pondera	690
Total Montana	17,790

COLORADO

Iles Dome	1,410
Florence	180
Fort Collins and Wellington	340
Wilson Creek	640
Moffat	260
Greasewood	20
Rangely	70
Tow Creek	130
Price	140
Total Colorado	3,190

NEW MEXICO

Arrowhead	2,790
Cooper	2,890
Eaves	580
West Eunice	250
Eunice	17,590
Halfway	160
Hardy	2,530
Hobbs	10,230
Jal	390
Langlie	4,400
Lynch	290
Lynn	790
Mattix	4,800
Monument	19,130
North Lynch	10
Penrose	3,820
Rhoades	90
Skelly	1,560
South Eunice	2,330
South Lovington	1,390
Vacuum	11,820
Artesia-Maljamar	19,150
Aztec-Bloomfield	10
Getty	100
Hogback	200
Rattlesnake	360
Table Mesa	70
Total New Mexico	107,640
Total Rocky Mountain area	199,520

Turner Valley Extension

A recent report by Dr. G. S. Hume of the Geological Survey of Canada indicates that the Turner Valley structure may extend a considerable distance north of its present boundaries, and that the crest of the Madison limestone in Townships 21 and 22 will be found at shallower depths than in the proven North Turner Valley area. The most northerly production so far developed is in the south end of Township 20.

Judge W. W. McDonald at Calgary has handed down a decision in a case involving the value of surface rights in connection with Turner Valley drilling. The judgment held that the Royalite Oil Co. should pay $350 a year for the use of approximately six acres on which No. 42 was drilled. The company had offered $500 for six acres for the first year and thereafter $50 an acre with the right to reduce the holding to three acres. The decision held that land in such cases had a special value other than that allowed for agricultural use.

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